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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1884.

No. 189.

EDWARD G. THOMPSON, TRUSTEE FOR CLARA E. CARR, EXECUTRIX, AND GEORGE D. SCOTT, EXECUTOR OF WILLIAM S. CARR, DECEASED, AND SARAH BARTHOLOMEW, APPELLANTS,

vs.

ELIZABETH E. BOISSELIER AND JOHN C. KUPFERLE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF MISSOURI.

FILED MARCH 24, 1882.

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1 UNITED STATES OF AMERICA,
Eastern District of Missouri, } *ss:*

In the Circuit Court of the United States in and for the Eastern District of Missouri.

Be it remembered that on the 15th day of February, A. D. 1877, there was filed in the office of the clerk of said court a certain bill in equity, in words and figures following, to wit:

2 United States Circuit Court, Eastern District of Missouri. In Equity.

CHARLES F. BLAKE, Trustee, &c., and WILLIAM S. CARR and FREDERICK H. BARTHOLOMEW
vs.
MRS. ELIZABETH E. BOISSELIER and JOHN C. KUPFERLE. } No. 965.

To the honorable the judges of said court:

Charles F. Blake, of the city, county, and State of New York, and a citizen of said State of New York, as he is trustee of Wm. S. Carr and Frederick H. Bartholomew, both residents of the said city of New York, and citizens of said State, beneficiaries under said trust,
bring this bill of complaint against Mrs. Elizabeth E. Boisse-
3 lier and John C. Kupferle, both residents of the city of St.
Louis, State of Missouri, and citizens of said State.

And thereupon your orators complain and say that heretofore, and before the 5th day of August, A. D. 1856, William S. Carr, one of the complainants herein, became and was the original and first inventor and discoverer of a certain new and useful improvement in water closets, which had not been known or used by others before the invention thereof by him, and that, being such original and first inventor thereof, he made application to the Commissioner of Patents of the United States, in due form of law, for letters patent therefor, and thereafter he, in all respects, complied with all the provisions
of the statute in such case made and provided; thereupon due
4 proceedings were had, and the said Commissioner caused let-
ters patent to be made out and delivered unto the said William S. Carr, which bear date the 5th day of August, A. D. 1856, and are duly signed and sealed, whereby there was granted and secured to the said William S. Carr, his heirs, administrators, or assigns, for the term of fourteen years from the date thereof, the full and exclusive right and liberty of making, using, and vending to others to be used, the said improvement.

And your orators further show unto your honors that, afterwards and before the 12th day of June, A. D. 1860, the said William S. Carr presented a petition to the said Commissioner of Patents, alleg-
ing that by reason of an insufficient or defective specification
5 his aforesaid letters patent were inoperative to secure the
whole of said invention, and that said errors had arisen from inadvertence and accident or mistake, and not through any fraudulent or deceptive intention, to the best of his knowledge and belief, and praying that the same might be cancelled and new and

amended letters patent issued to him on an amended specification and claims for the same invention, and at the same time surrendered to him, the said Commissioner of Patents, said original letters patent; and the said William S. Carr fully and in all respects complied with all the provisions of the statutes in such case made and provided; thereupon due proceedings were had,
6 and the said Commissioner cancelled said original letters patent, and on the 12th day of June, A. D. 1860, caused new and amended letters patent to be granted and issued in lieu thereof, which said new and amended letters patent are known and designated as reissue No. 978, and are duly signed and sealed, and are for the same invention as that described in said original letters patent, and grant and secure unto the said William S. Carr, his heirs, administrators, or assigns, for the term of fourteen years from the 5th day of August, A. D. 1856, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention, as by reference to said reissued letters patent or a duly
7 authenticated copy thereof here in court to be produced will more fully and at large appear.

And your orators further show unto your honors that thereafter, upon due application and in conformity with the requirements of the statutes in such case made and provided, upon the petition of the said William S. Carr the said reissued letters patent were duly extended for a further term of seven years from and after the date of expiration of the said original term, as by a duly certified certificate of said extension in court to be produced will more fully and at large appear.

And your orators further show unto your honors that, by a
8 duly drawn, executed, delivered, and recorded deed of assignment in writing, dated the 27th day of March, 1872, the said William S. Carr assigned unto your orator, Charles F. Blake, and unto Charles M. Keller, now deceased, the said reissued and extended letters patent, reissue No. 978, in trust for the benefit of him and the said Frederick H. Bartholomew.

And your orator further shows unto your honors that the said Charles M. Keller departed this life on the 14th day of October, 1874, and that by reason of the terms of the said deed of trust the said trust devolved upon your orator as sole surviving trustee as by said deed of assignment in trust, or a duly certified copy thereof in court to be produced, will more fully and at large appear.

And your orators further show unto your honors that he verily believes, and therefore charges the fact to be, that the said William S. Carr was and is the original and first inventor of the improvement in water closets, described and claimed in the said reissued and extended letters patent, and that the same has not been known or used by others before the invention thereof by him, and
9 that the title thereto is now vested in your orator in trust.

And your orators further show unto your honors that the exclusive rights granted and secured by the hereinabove recited letters patent granted to the said William S. Carr, and assigned to your orator, Charles F. Blake, in trust as aforesaid, are of great value, and that your orator, Charles F. Blake, as such trustee, and William S. Carr and Frederick H. Bartholomew beneficiaries thereunder, will receive large gains and profits therefrom if the infringement thereof by the defendants above named be prevented, and that your orator or such trustee, and the said William S. Carr and Frederick H. Bartholomew have been to great trouble and expense in attempting to make the said invention of benefit and advantage to themselves and to the public, and that they have done so, and that the public generally have acquiesced in and respected the exclusive of your orator rights in the premises.

10 Yet the said defendants, well knowing the premises, but
contriving and wrongfully intending to injure your orators and deprive them of the gains and profits which would otherwise accrue to them from the said invention, have manufactured and sold, and are still manufacturing and selling within the district aforesaid, large numbers of water closets containing and embodying, and constructed substantially in accordance with the said invention described in and secured by the before recited reissued and extended letters patent No. 978, and your orators have reason to believe, and do believe, that the said defendants will continue to make
and sell the same, and are thereby causing your orator great
11 and irreparable damage, and refuse to pay your orator any
of the profits which may have arisen or accrued to them from or by reason of such unlawful manufacture and sale or to desist from manufacturing or selling the same, all which is in violation and infringement of the said reissued and extended letters patent No. 978, and of the exclusive rights of your orators under the same.

Which said actings and doings of the said defendants are contrary to equity and good conscience, and tend to the manifest injury of your orators in the premises.

In consideration whereof, and forasmuch as your orators can only
have relief in this honorable court, where matters and things
12 of this sort are made cognizable by statute, to the end therefore,
that the said defendants may, if they can, show cause why your orators should not have the relief hereby prayed, and may upon their corporal oaths, and according to their best and utmost knowledge, remembrance, information, and belief, full, true, direct, and perfect answer make to the matters and things hereinbefore stated and charged. And that the said defendants may answer the premises, and that they may be decreed to account with and pay over to your orators the profits which they have realized and received, or which may have arisen or accrued to them, as also the amount of damages suffered by your orators from or by reason of
such unlawful manufacture and sale of water closets, contain-
13 ing and embodying the improvements described and claimed
in the before recited letters patent No. 978, to be assessed as by statute provided.

And your orators further show unto your honors, that the said damage by your orators sustained by reason of said infringement by the defendants herein is in the sum of fifty thousand dollars, which they pray may be assessed as by statute provided, and paid over by the said defendants to your orators.

May it please your honors, the premises considered, to grant unto your orators the writ of perpetual injunction issuing out of and under the seal of this honorable court, or issued by one of your honors
14 according to the form of the statute in such case made and
provided, enjoining and restraining the said defendants, Mrs. Elizabeth E. Boisselier and John Kupferle, their clerks, attorneys, agents, servants, and workmen, under the pains and penalties which may fall upon them, and each of them, in case of disobedience, from directly or indirectly manufacturing, making, or selling any water closets or parts thereof constructed substantially according to, or embodying, the invention described and secured by the before recited reissued and extended letters patent, No. 978.

And also that a writ of preliminary or provisional injunction may issue so restraining the said defendants, their agents, and
15 employees pending this suit.

And that your orators may have such other and further relief as the nature of the case may require, and to your honors shall seem meet.

And may it please your honors to grant unto your orators, not only the writs of injunction conformable to the prayer of this bill, but also the writ of subpœna directed to the said defendants, Mrs. Elizabeth E. Boisselier and John C. Kupferle, and commanding them, on a day certain therein to be named, to be and appear in this honorable court, then and there to answer the premises, and to stand to, perform, and abide such further order, direction,
16 and decree as may be made against them.

And as in duty bound will ever pray, &c.

CHARLES F. BLAKE.

CHARLES F. BLAKE,
Solicitor & Counsel for Complainant,
16 Murray Street, New York City.

UNITED STATES OF AMERICA, *Southern District of New York,* } *ss:*

Charles F. Blake, being duly sworn, deposes and says: That he is the complainant named in the foregoing bill; that he has read the same, and knows the contents thereof; and that the same is true of his own knowledge, except as to those matters therein stated on information and belief, and as to those matters he belives it
17 to be true.

CHARLES F. BLAKE.

Sworn & subscribed to before me, this 12th day of February, 1877.

PHILLIPS ABBOT,
Notary Public, New York County.

18

Answer.

Circuit Court of the United States, Eastern District of Missouri.

CHAS. F. BLAKE, Trustee *et al.*
vs. } In Equity. No. 965.
E. E. BOISSELIER *et al.*

To the honorable the judges of the United States circuit court in and for the eastern district of Missouri:

The joint and several answers of Elizabeth E. Bossielier and John C. Kupferle, defendants to the bill of complaint of Charles F. Blake, trustee, &c., William S. Carr, and Frederick H. Bartholomew, complainants.

These defendants, now and at all times hereafter saving and reserving to themselves and each of them all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainants' said bill of complaint contained, for answer thereto or unto as much and such parts thereof as these defendants are advised is or are material or necessary for them, or either of them, to make answer, they, these defendants, severally answering, say: That they admit, on information and belief, that the patent and the reissue and extension thereof, as in said bill set forth, were granted in the manner, for
19 the purpose, and at the several dates as set forth in said bill;
but these defendants deny any knowledge, information or belief in respect to the assignment in the said bill alleged, or whether the said Charles F. Blake is vested with the said trust or any trust in relation to said patent, and therefore they deny the same and leave the complainants to make such proof thereof as they may be advised.

Further answering, these defendants aver that they have no knowledge, information, or belief as to whether the exclusive rights claimed to be vested in complainants under and by virtue of said letters patent are of great or any value, or whether the said complainants have been to great or any trouble or expense in attempting to make the said invention of benefit or advantage to themselves, and consequently they deny each and every allegation in said bill in relation thereto.

These defendants, further answering, allege that the public generally have not acquiesced in or respected the alleged exclusive rights claimed by said complainants under and by virtue of said letters patent; but, on the contrary, said pretended rights have been opposed and resisted whenever said complainants have undertaken to enforce them against those manufacturing or interested in the manufacture of the article to which said letters patent relate.

Further answering, defendants deny that they, or either of them, have at any time hitherto, or are now making, constructing, using, or vending to others to be used, the said pretended invention, or any water closets or parts of water closets, in any part thereof substantially the same in construction and operation as the invention in said letters patent mentioned, or constructed in whole or in part upon the principles and in the manner of the invention described in said letters patent.

Further answering, these defendants aver that the reissue letters patent set forth in said bill are void and of no effect, for the reason that the same are for and claim a different invention from that set forth and described in the original letters patent referred to in said bill.

And for a further answer and defence against the claim of the above-named complainants, these defendants aver that said William S. Carr was not the original and first inventor of the improvements 20 in said letters patent set forth and claimed, but that long prior to any pretended invention thereof by him, the said Carr, the said improvements were fully described and shown in certain printed public works as set forth heretofore, to wit: In printed p*h*amphlet published in London, England, and entitled as follows: "Lambert's Patent High Pressure Valve Cocks, XXI, Thomas Lambert & Sons, founders and machinists, manufacturers of block tin, composition, and lead pipe, hydraulic steam and gas apparatus, wrought and galvanized iron pipe and fittings. Patentees of the flexible diaphragm water valves, self-acting water closets, and Carter's safety gas valves, short steel, short cut, Lambert, London;" and also in a certain other pamphlet published in Edinburgh, Scotland, entitled "Kirkwood's Registered Water Closets, Baths, Cocks, &c."

And these respondents humbly submit and insist that, under the facts and circumstances as above alleged, the said complainants have no right to any further or other answer to said bill, or any part thereof, than is above given, and no right of injunction, account, or other relief prayed for in said bill; and they therefore ask to be hence dismissed with their reasonable cost and charges in this behalf most wrongfully sustained.

J. C. KUPFERLE.

SAM'L S. BOYD,
Defendants' Solicitor.

21 The following testimony in the cases of Charles F. Blake *v.* McNab & Harlan Manuf'g Co. *et al.* and Same *v.* Eaton *et al.* was imported into the two cases of Charles F. Blake, trustee, &c., *v.* Boisselier *et al.*, by stipulation between counsel, and constituted part of the record on which the said cases of Blake, trustee, &c., *et al. v.* Boisselier *et al.* were argued at the circuit, Boisselier *et al.* having made all the closets complained of, & the same construction being involved in all the cases.

SAM'L S. BOYD, *Def'ts' Sol'r.*

[Folios 22 and 23 missing.—PR.]

24 United States Circuit Court, Southern District of New York.

CHARLES F. BLAKE, Trustee, &c., WILLIAM S. CARR,
and SARAH M. BARTHOLOMEW,
vs.
THE MCNAB AND HARLAN MANUFACTURING CO. and
JOHN HARLIN.
} In Equity.

To the honorable the judges of said court:

Charles F. Blake, a resident of the city, county, and State of New York, and a citizen of said State, and William S. Carr and Sarah M. Bartholomew, both residents of said city of New York, and both citizens of said State of New York, bring this their bill of complaint against The McNab and Harlan Manufacturing Company, a corporation organized under and doing business under and by virtue of the laws of the State of New York, domiciled at the city of New York, in said State, and a citizen thereof; and John Harlan, president of said company, a resident of said city of New York, and a citizen of said State of New York.

And thereupon complain and say that heretofore, and before the 5th day of August, A. D. 1856, one William S. Carr became and was the original, true, and first inventor of a new and useful improvement in water closets, not known or used by others prior
25 to his said invention; that thereupon he made application
to the Commissioner of Patents of the United States for letters patent therefor; that thereafter letters patent of the United States were issued to him in due form of law for the said invention, which letters patent are dated the 5th day of August, 1856, and secure to him, his heirs, administrators, or assigns, for the term of fourteen years from the date thereof, the full and exclusive right to make, use, and vend to others to be used the said invention.

And your orators further show unto your honors that thereafter, and before the 12th day of June, 1860, the said Carr, for good and lawful reasons, surrendered said letters patent to the Commissioner of Patents, and prayed that the same might be reissued on an amended specification for the same invention; that thereupon the Commissioner of Patents caused new and amended letters patent to be issued to the said Carr, which are for an invention described in said original letters patent, and which bear date the 12th day of June, 1860, and are numbered reissue 978, as by reference to a duly certified copy thereof in court to be produced will fully and at large appear.

And your orators further show unto your honors that thereafter, and before the expiration of said letters patent, the said Carr, being desirous of extending the same for a further term, made application by petition in due form of law to the Commissioner of Patents for an extension of said letters patent, reissued as aforesaid, for the further term of seven years from the expiration of the original term thereof; that thereupon the said Commissioner extended the said letters patent so granted and reissued as aforesaid for the further term of seven years from and after the 5th day of August, 1870, as by reference to the certificate of extension attached to said reissued letters patent, or a certified copy thereof, in court to be produced, will more fully and at large appear.

26 And your orators further show unto your honors that heretofore, and before the 7th day of April, A. D. 1868, the said William S. Carr became and was the original, true, and first inventor of a certain other new and useful improvement in water closets, not known or used by others before his invention thereof; that thereafter he made application in due form of law for letters patent of the United States for said invention; that thereafter the said Commissioner of Patents caused letters patent of the United States to be issued to him, the said Carr, for his said last-named invention, which bear date the 7th day of April, 1868, and are numbered 76398, and grant and secure unto the said Carr and his legal representatives the full and exclusive right and liberty of making, using, and vending the said invention for the term of seventeen years from the said 7th day of April, 1868, as by reference to a duly certified copy thereof, in court to be produced, will fully and at large appear.

And your orators further show unto your honors that by an instrument in writing duly executed, bearing date the 27th day of March, 1872, the said William S. Carr assigned, sold, and set over unto your orator, Charles F. Blake, and unto Charles M. Keller, since deceased, and the survivor of them, in trust, the said several letters patent and the inventions thereby secured, as by reference to said deed of assignment, or a duly certified copy thereof, in court to be produced, will more fully and at large appear.

And your orators aver and charge the fact to be that the said William S. Carr was the original, true, and first inventor and discoverer of the various improvements in water closets described and claimed in and by said several letters patent, and that the same had not been known or used by others before the invention thereof by him.

And your orators further show unto your honors that before the
12th day of October, 1858, Frederick H. Bartholomew became
27 and was the original, true, and first inventor of a certain
new and useful improvement in water closets, not known or used by others before the invention thereof by him; that thereupon he made application to the Commissioner of Patents for letters patent therefor; that thereafter letters patent were issued to him for the said invention in due form of law, which bear date the 12th day of October, 1858, and are numbered 21734, and grant and secure unto the said Bartholomew, his heirs, executors, administrators, and assigns, for the term of fourteen years from the date thereof, the full and exclusive right and liberty of making, using, and vending to others to be used the said invention, as by said letters patent or a duly certified copy thereof, in court to be produced, will more fully and at large appear.

And your orators further show unto your honors that the said Bartholomew departed this life at the city, county, and State of New York, on or about the 15th day of October, 1869, and that by his last will and testament he bequeathed unto his wife, Sarah Bartholomew, the said several letters patent above recited and the inventions thereby secured, which said will was admitted to probate on or about the 3d day of November, 1869, as by said will, or a duly certified copy thereof, in court to be produced, will more fully and at large appear. And that said Sarah Bartholomew, having been appointed executrix of the last will and testament of the said Frederick H. Bartholomew, thereafter duly qualified as such executrix and acted as such.

And your orators further show unto your honors that thereafter, and before the expiration of said letters patent the said Sarah Bartholomew, executrix as aforesaid, being desirous of extending the said last-named letters patent for a further term, made application, by petition in due form of law, to the Commissioner of Patents for an extension of the same; that thereafter the said commissioner extended the said letters patent for the further term of seven 28 years from and after the date of expiration thereof, to wit, the 12th day of October, 1872, as by reference to the certificate of extension attached to the said last-named letters patent, or a certified copy thereof, in court to be produced, will fully appear.

And your orators further show unto your honors that by an instrument in writing, under her hand and seal, duly executed, and bearing date the 27th day of March, 1872, the said Sarah Bartholomew, as such owner and holder of said several letters patent, assigned, transferred, and set over unto your orator, Charles F. Blake, and unto Charles M. Keller, since deceased, and the survivor of them, in trust, the said letters patent above recited, as by reference to said deed of assignment, or a duly certified copy thereof, in court to be produced, will more fully and at large appear.

And your orators further show unto your honors that he verily believes, and therefore charges the fact to be, that the said Frederick H. Bartholomew was the original and first inventor of the improvements described and claimed in the several before recited letters patent granted to him, and that the same had not been known or used by others before the invention thereof by him.

And your orators further show unto your honors that on or about the 1st day of August, 1874, your orator, Charles F. Blake, and his then co-trustee, Charles M. Keller, since deceased, filed their certain bill of complaint in the United States circuit court in and for the eastern district of Pennsylvania against George R. Kirk, and in their said bill alleged that the said defendant had infringed their exclusive rights secured to them in and by the said several letters patent, and all of them upon which this bill is brought, by his manufacture and sale of water closets, or parts thereof, and prayed for an accounting and injunction; that the said defendant appeared and answered that complainants filed their replication to said answer; that thereafter both sides took testimony for final hearing at 29 great length; that thereafter the said cause came on to be heard before his honor, William McKennan, judge, and was duly argued by counsel; that thereafter, and on or about the 8th day of October, 1878, the said judge filed his opinion in said cause in favor of the complainants, and thereafter, and on or about the

18th day of October, 1878, a decree was entered and filed in said cause, in which it was ordered, adjudged, and decreed, among other things, that the title to the said several letters patent, upon which said bill was brought, was vested in your orator, Charles F. Blake, as sole surviving complainant, trustee; that the said several letters patent, and each of them, were good and valid in law; that the said Carr and the said Bartholomew, respectively, were the original and first inventors of the invention described and claimed in their several original and reissued letters patent, respectively, and that the defendant Kirk had infringed the fourth claim of the said patents number 76,398, and had infringed the first claim of said patent No. 21,734, and had infringed the third claim of said reissued and extended letters patent No. 978. And that your orator, Charles F. Blake, sole surviving complainant in said suit, should recover the profits, gains, damages, and advantages which the said George R. Kirk had received or made, or which had accrued to him by reason of his said infringement, and his costs. And referred the matter to a master for accounting in the usual form. And ordered a perpetual injunction against the said defendant according to the prayer of the bill, enjoining and restraining him from infringing said several claims of the said letters patent which were then in force.

And your orators further show unto your honors that on or about the 15th day of August, 1872, your orator, Charles F. Blake, and his then co-trustee, Charles M. Keller, filed their bill of complaint in the U. S. circuit court in and for the northern district of Illinois against Ludwig Wolff, alleging that the said Wolff had infringed, by
30 his manufacture, use, and sale of water closets the said letters patent upon which this suit is brought.

That after the decree had been entered in the said Kirk case your orator, Charles F. Blake, moved thereon against said Ludwig Wolff; that thereafter, and on or about the 30th day of October, 1878, a decree was entered in said Wolff case sustaining your orator's rights in all respects, as in said Kirk case set forth.

And your orators aver and charge the fact to be that the water closets made and sold by the defendants herein are substantially the same in construction and mode of operation, both as to the completed closet and as to the particular devices set forth and claimed in the patents upon which this suit is brought, as the water closets and devices thereof made and sold by the defendants, Kirk and Wolf, respectively, in said suits aforesaid held to be infringements of the patents upon which this suit is brought.

And your orators further show unto your honors that on or about the 14th day of October, 1874, the said Charles M. Keller, co-trustee with your orator, Charles F. Blake, departed this life at Milburn, in the State of New Jersey, and that by the terms of the said deeds of trust the said trust devolved unto your orator, Charles F. Blake, as sole surviving trustee.

And your orators further show unto your honors that the said several inventions described in the said several letters patent, the right to which is now vested in your orator, Charles F. Blake, as sole surviving assignee in trust, are of great value, and that he and the said

Charles M. Keller, his co-trustee during his lifetime, have made them of great benefit and advantage to the trust held by him and to the public, and will continue so to do if the infringement by the defendants herein and others be prevented.

Yet the said defendants, well knowing the premises, but contriving and wrongfully intending to injure your orators and to 31 deprive them of the gains and profits which might and otherwise would accrue to them from the use and sale of the said several inventions, have confederated together jointly to injure your orators, and have sold, and are still selling, great numbers of water closets, each containing and embodying in their construction the said several inventions described and claimed in the several letters patent before recited, the sole and exclusive right to the use, manufacture, and sale of which is vested in your orator, Charles F. Blake, and he fears a continuance of such infringement and violation of your orators' rights, and that they have heretofore sold large numbers of water closets, embodying the several inventions described and claimed in said letters patent, which have now expired.

And your orators aver, and charge the fact to be, that the said defendants have been notified of this infringement, and warned to desist therefrom, but that they have not desisted, but continues the same, to the great damage of your orators in the sum of fifty thousand dollars.

And your orator, Charles F. Blake, further shows unto your honors that he is able, willing, and anxious to supply all the demand of the public for water closets embodying the inventions described and claimed in said several letters patent, respectively, and any and all of them.

Which said actings and doings of the said defendants are contrary to equity and good conscience, and tend to the manifest injury of your orator in the premises.

Wherefore your orators pray—

1. That the defendants may answer, under oath, the premises.
2. That they may be enjoined, during the pendency of this suit, from such infringement of said several letters patent now in force.
3. That they may be perpetually enjoined from such infringement.

32 4. That they may account to the complainants for the water closets and parts thereof sold, or used by them in infringement of said several letters patent, and any and all of them in violation of your orators' said exclusive rights, and for all moneys received from the manufacture, use, and sale thereof, and may be decreed to pay over unto your orators any and all profits made or derived from said sales in violation of your orators' said rights.

5. That they may be decreed to pay the costs of this suit.
6. And that damages to the amount of fifty thousand dollars may be adjudged to your orators against the defendants, for such violation of their said exclusive rights and for their infringement.

And for other and further relief may it please your honors to grant unto your orators—

1. A writ of subpœna in due and useful form, and under the

usual penalties, directed to the respondents, the McNab & Harlan Manufacturing Company and John Harlin.

2. A writ of injunction, restraining them from such infringements during the pendency of this suit, and also their agents, officers, attorneys, servants, confederates, and workmen.

3. A writ of injunction restraining them and their servants, officers, agents, attorneys, confederates, and workmen from such infringement perpetually.

All duly sealed and tested in due and usual form, and under usual penalties, and directed to said respondents, The McNab & Harlan Manufacturing Company and John Harlin.

4. And such other and further relief as equity may require and to your honors shall seem meet.

CHARLES F. BLAKE,
Trustee, &c.

CHARLES F. BLAKE,
Solicitor and Counsel for Complainants,
16 *Murray Street, New York City.*

33 UNITED STATES OF AMERICA,
County of New York, State of New York, } *ss:*

Charles F. Blake, being duly sworn, says: That he is one of the complainants named in the foregoing bill subscribed by him; that he has read the same and knows the contents thereof, and that the same is true of his own knowledge, except such matters and things as are therein mentioned on information and belief, and as to such matters he verily believes it to be true.

CHARLES F. BLAKE.

Subscribed and sworn to before me, this 15th day of July, 1879.
[SEAL.] PHILLIPS ABBOTT,
Notary Public, Kings and New York Co's, State of New York.

United States Circuit Court in and for the Southern District of New York. In Equity.

CHARLES F. BLAKE *et al.*, Complainants,
vs.
THE McNAB & HARLAN MANUFACTURING COMPANY and JOHN HARLAN, Defendants.

To the honorable the judges of the United States circuit court in and for the southern district of of New York:

34 The joint and several answer of the McNab & Harlan Manufacturing Company and John Harlan, defendants, to the bill of complaint of Charles F. Blake, trustee, etc., William S. Carr and Sarah M. Bartholomew, complainants.

These defendants, now and at all times hereafter saving and reserving to themselves and each of them all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainants' said bill of complaint contained, for answer thereunto, or unto so much and such parts thereof as these defendants are advised is or are material or necessary for them, or either of them, to make answer unto, they, these defendants, severally answering, say: That they admit, on information and belief, that the several patents, and the extensions and reissues as in said bill alleged, were granted in the manner and for the purpose and at the several dates as in said bill set forth; but these defendants deny any knowledge, information, or belief in respect to the assignments in said bill alleged, or whether the said Charles F. Blake is vested with the said trust, or any trust, in relation to said patents, or either of them, and therefore they deny the same, and leave the complainants to make such proof thereof as they may be advised.

Further answering, these defendants aver that they have no knowledge, information, or belief as to whether the exclusive right claimed to be vested in complainants under and by virtue of said letters patent are of great or any value, or whether the said complainants have been to any trouble or expense in attempting to make the said invention of benefit or advantage to themselves, and consequently they deny each and every allegation in said bill in relation thereto.

Further answering, these defendants deny that they, or either [of] them, have, at any time hitherto, or are now, selling the said pretended invention, or any water closets, or parts of water closets, in any
part thereof substantially the same in construction and opera-
35 tion as the invention mentioned in said letters patent, or either
of them, or constructed in whole or part upon the principle or in the manner of the invention described and covered by and in said letters patent, or either of them; but these defendants admit that the said The McNab & Harlan Manufacturing Co., and the said John Harlan, as its president, and not otherwise, have sold and are still selling water closets constructed in accordance with certain letters patent of the United States granted one John C. Kupferle and one P. White, bearing date April 17th, 1877, and numbered 189,562, as they have good and perfect right to do, as thereby they infringe upon no exclusive right that can be claimed by the said complainants under and by virtue of said letters patent, or either of them.

And for a further answer and defense against the claim of the above-named complainants, these defendants aver, on information and belief, that neither the said Carr nor the said Bartholomew was the first and original inventor of the improvement set forth and claimed in said letters patent, or either of them; but that, as these defendants are informed and believe, long anterior to any pretended invention thereof by the said Carr or the said Bartholomew, the said several alleged improvements were well known to and practically and publicly used by many persons in different parts of the United States, and, among other persons, to the following named persons at the places named:

At the Novelty Iron Works, in the city of New York, and at other places in said city; and also at the city of Brooklyn, as will appear by the testimony of Isaac V. Holmes, of Cleveland, Ohio, and others, whose names are not now known to these defendants.

Also, the same were known to and used by Robert Kirkup, at Cincinnati, Ohio, where he now resides.

Also, the same were known to and publicly used by J. & 36 H. Jones, in White street, New York city, as will appear from the testimony of William Nicoll, residing at 156 Tompkins avenue, Brooklyn, and by Charles Harrison, residing in the city of New York.

Also, the same were known to and publicly used by N. G. Garraty, at No. 430 Third avenue, New York City, as will appear by the testimony of Patrick Madden, residing at St. Louis, Missouri.

Also, that the same were so used at the "Planters' House," a hotel in St. Louis, Missouri, as will appear by the testimony of Timothy D. Turner, a resident of said city of St. Louis, and others of said city.

Also, that the improvements set forth and described in the letters patent granted said Bartholomew were publicly used and sold by one William S. Carr, in the city of New York, long anterior to the pretended invention thereof by the said Bartholomew, as will appear by the testimony of N. Sawyer, residing at No. 378 Hoyt street, Brooklyn, New York, and by others whose names are not now known to these defendants; and the same were also fully shown and described in certain letters patent of the United States granted said Carr, August 5th, 1856, and reissued June 12th, 1860, as number 978.

Also, that the improvements claimed in said reissue No. 978 were fully shown and described in certain letters patent of the United States granted F. H. Bartholomew, February 4th, 1854, and June 20th, 1854, and in letters patent of the United States granted Thomas Hanson, March 20th, 1855, No. 12,549, and in the following English letters patent; No. 8971, granted George Hulme, May 27th, 1841; James Hume, No. 781, dated November 19th, 1852; design No. 1633, for a piston cock, registered October 21st, 1848, by William Kirkwood; and also in a printed pamphlet published in London, England, and entitled as follows: "Lambert's Patent High Pres- 37 sure Valve Cocks, Class XXI; Thomas Lambert & Son, Founders, &c., &c.;" and also in a certain other printed pamphlet published in Edinburgh, Scotland, entitled "Kirkwood's Registered Water Closets, Baths, &c.," all of said letters patent and printed publications being long anterior to the date of the pretended invention of the said Carr.

Also, that long anterior to the said invention of the said Carr of the improvement described and claimed in said letters patent No. 76398, and in the fourth claim thereof, the same were in public use at Cincinnati, Ohio, and Mount Vernon, Ohio, and in other parts of this country, which said uses were known to Frank Millward, of Ludlow, in the State of Kentucky; to J. V. Holmes, who resided in Cleveland, Ohio, and to John W. Hill, who resided in Dayton, Ohio; also the same were so publicly used by one William Smith, at San Francisco, California, as will appear by the testimony of said Smith, George Milne, and Lawrence McNally, all of San Francisco aforesaid.

These defendants, further answering, say that they are informed and believe that the said several improvements in said several letters patent claimed were known to and publicly used, prior to said alleged invention thereof by said Carr and Bartholomew, by other persons in the United States whose names are not now known to the defendants, and they crave leave to set forth the same in an amended answer, when they shall have obtained definite information thereof.

Wherefore these defendants humbly submit and insist that, under the facts and circumstances as above alleged, the said complainants have no right to any further or other answer to said bill, or any part thereof, than is above given, and no right of injunction, account, or other relief prayed for in said bill, and they, there-
38 fore, ask to be hence dismissed, with their reasonable costs and charges in this behalf most wrongfully sustained.

McNAB & HARLAN MANUFACTURING CO.
JOHN HARLAN, *President.*

SAMUEL S. BOYD,
421 *Olive Street, St. Louis, Defendants' Solicitor.*

UNITED STATES OF AMERICA, } *ss:*
Southern District of New York, }

John Harlan, for himself individually, and as president of the McNab & Harlan Manufacturing Co., being duly sworn, deposes and says: That he has read the foregoing answer and knows the contents thereof, and that the same is true of his own knowledge, except such matters and things as are therein mentioned on information and belief, and as to such matters he verily believes it to be true.

JOHN HARLAN.

Subscribed and sworn to before me, this 1st day of Sept., A. D. 1879.

(S'g'd) J. M. DEUEL,
U. S. Comm'r.

39 *Replication.*

Circuit Court of the United States for the Southern District of New York. In Equity.

CHARLES F. BLAKE, Trustee, &c., *et als.*,
vs.
THE McNAB & HARLAN MAN'F'G CO. and JOHN HARLAN.

The replication of Charles F. Blake, trustee, &c., William S. Carr, and Sarah M. Bartholomew, complainants, to the answer of The McNab & Harlan Manufacturing Company and John Harlan, defendants.

The repliants, saving and reserving unto themselves all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for replication thereunto, say that they will aver and prove their said bill to be true, certain, and sufficient in the law to be answered unto, and that the said answer of the defendants is uncertain, untrue, and insufficient to be replied unto by these repliants; without this, that any other matter or thing whatsoever in the said answer contained material or effective in the law to be replied unto, confessed and avoided, traversed or denied, is true. All which matters and things these repliants can and will be ready to aver and prove as this honorable court shall direct, and humbly pray as in and by their said bill they have already prayed.

CHARLES F. BLAKE,
Solicitor for Complainant, 16 Murray Street, New York City.

Dated at New York city the 3d day of December, 1879.

40 *Complaint.*

United States Circuit Court, Southern District of New York. In Equity.

CHARLES F. BLAKE, Trustee, &c., WILLIAM S. CARR, and SARAH M. BARTHOLOMEW

vs.

JOHN EATON, EDWARD H. COLE, WILLIAM H. COLE, and EDWARD G. BURNHAM.

To the honorable the judges of said court:

Charles F. Blake, a resident of the city, county, and State of New York, and a citizen of said State, and William S. Carr and Sarah M. Bartholomew, both residents of said city of New York, and both citizens of said State of New York, bring this their bill of complaint against John Eaton, a resident of the State of Pennsylvania and a citizen of said State; Edward H. Cole and William H. Cole, both residents of the city of Brooklyn, State of New York, and both citizens of said State of New York; and Edward G. Burnham, a resident of the State of Connecticut and a citizen of said State of Connecticut.

And thereupon complain and say that heretofore, and before the 5th day of August, A. D. 1856, one William S. Carr became and was the original, true, and first inventor of a new and useful improvement in water closets, not known or used by others prior to his said invention; that thereupon he made application to the Commissioner of Patents of the United States for letters 41 patent therefor; that thereafter letters patent of the United States were issued to him, in due form of law, for the said invention, which letters patent are dated the 5th day of August, 1856, and secure to him, his heirs, administrators, or assigns, for the term of fourteen years from the date thereof, the full and exclusive right to make, use, and vend to others to be used the said invention.

And your orators further show unto your honors that thereafter, and before the 12th day of June, 1860, the said Carr, for good and lawful reasons, surrendered said letters patent to the Commissioner of Patents, and prayed that the same might be reissued on an amended specification for the same invention; that thereupon the Commissioner of Patents caused new and amended letters patent to be issued to the said Carr, which are for an invention described in said original letters patent, and which bear date the 12th day of June, 1860, and are numbered reissue 978, as by reference to a duly certified copy thereof, in court to be produced, will fully and at large appear.

And your orators further show unto your honors that thereafter, and before the expiration of said letters patent, the said Carr, being desirous of extending the same for a further term, made application by petition, in due form of law, to the Commissioner of Patents for an extension of said letters patent, reissued as aforesaid, for the further term of seven years from the expiration of the original term thereof; that thereupon the said Commissioner extended the said letters patent, so granted and reissued as aforesaid, for the further term of seven years from and after the 5th day of August, 1870, as by reference to the certificate of extension attached to said reissued letters patent, or a certified copy thereof, in court to be produced, will more fully and at large appear.

And your orators further show unto your honors that heretofore, and before the 7th day of April, A. D. 1868, the said William 42 S. Carr became and was the original, true, and first inventor of a certain other new and useful improvement in water closets, not known or used by others before his invention thereof; that thereafter he made application in due form of law for letters patent of the United States for said invention; that thereafter the said Commissioner of Patents caused letters patent of the United States to be issued to him, the said Carr, for his said last-named invention, which bear date the 7th day of April, 1868, and are numbered 76398, and grant and secure unto the said Carr and his legal representatives the full and exclusive right and liberty of making, using, and vending the said invention for the term of seventeen years from the said 7th day of April, 1868, as by reference to a duly certified copy thereof, in court to be produced, will fully and at large appear.

And your orators further show unto your honors that, by an instrument in writing duly executed, bearing date the 27th day of March, 1872, the said William S. Carr assigned, sold, and set over unto your orator, Charles F. Blake, and unto Charles M. Keller, since deceased, and the survivor of them in trust, the said several letters patent and the inventions thereby secured; as by reference to said deed of assignment, or a duly certified copy thereof, in court to be produced, will more fully and at large appear.

And your orators aver and charge the fact to be, that the said William S. Carr was the original, true, and first inventor and discoverer of the various improvements in water closets, described and claimed in and by said several letters patent, and that the same had not been known or used by others before the invention thereof by him.

And your orators further show unto your honors that, before the 12th day of October, 1858, Frederick H. Bartholomew became, and was the original, true, and first inventor of a certain new and 43 useful improvement in water closets, not known or used by others before the invention thereof by him; that thereupon he made application to the Commissioner of Patents for letters patent therefor; that thereafter letters patent were issued to him for the said invention, in due form of law, which bear date the 12th day of October, 1858, and are numbered 21734, and grant and secure unto the said Bartholomew, his heirs, executors, administrators, and assigns, for the term of fourteen years from the date thereof, the full and exclusive right and liberty of making, using, and vending to others to be used the said invention, as by said letters patent, or a duly certified copy thereof, in court to be produced, will more fully at large appear.

And your orators further show unto your honors, that the said Bartholomew departed this life at the city, county, and State of New York, on or about the 15th day of October, 1869, and that by his last will and testament he bequeathed unto his wife, Sarah Bartholomew, the said several letters patent above recited, and the inventions thereby secured, which said will was admitted to probate on or about the third day of November, 1869, as by said will, or a duly certified copy thereof, in court to be produced, will more fully and at large appear. And that said Sarah Bartholomew, having been appointed executrix of the last will and testament of the said Frederick H. Bartholomew, thereafter duly qualified as such executrix, and acted us such.

And your orators further show unto your honors, that thereafter and before the expiration of said letters patent, the said Sarah Bartholomew, executrix as aforesaid, being desirous of extending the said last-named letters patent for a further term, made application, by petition in due form of law, to the Commissioner of Patents, for an extension of the same; that thereafter the said Commissioner extended the said letters patent for the further term of seven years, from and after the date of expiration thereof, to wit, the 12th 44 day of October, 1872, as by reference to the certificate of extension attached to said last-named letters patent, or a certified copy thereof, in court to be produced, will fully appear.

And your orators further show unto your honors that by an instrument in writing, under her hand and seal, duly executed, and bearing date the 27th of March, 1872, the said Sarah Bartholomew, as such owner and holder of said several letters patent, assigned, transferred, and set over unto your orator, Charles F. Blake, and unto Charles M. Keller, since deceased, and the survivor of them, in trust, the said several letters patent above recited, as by reference to said deed of assignment, or a duly certified copy thereof, in court— be produced, will more fully and at large appear.

And your orators further show unto your honors that he verily believes, and therefore charges the fact to be, that the said Frederick H. Bartholomew was the original and first inventor of the improvements described and claimed in the several before-recited letters patent granted to him, and that the same had not been known or used by others before the invention thereof by him.

And your orators further show unto your honors that on or about the 1st day of August, 1874, your orator, Charles F. Blake, and his then co-trustee, Charles M. Keller, since deceased, filed their bill of complaint in the United States circuit court in and for the eastern district of Pennsylvania, against George R. Kirk, and in their said bill alleged that the said defendant had infringed their exclusive rights secured to them in and by the said several letters patent, and all of them upon which bill is brought, by his manufacture and sale of water closets or parts thereof, and prayed for an accounting and injunction. That the said defendant appeared and answered; that complainants filed their replication to said answer; that thereafter both sides took testimony for final hearing at great length;
that thereafter the said cause came on to be heard before his
45 Honor William McKennan, judge, and was duly argued by
counsel; that thereafter, and on or about the 8th day of October, 1878, the said judge filed his opinion in said cause in favor of the complainants, and thereafter, and on or about the 18th day of October, 1878, a decree was entered and filed in said cause, in which it was ordered, adjudged, and decreed among other things that the title to the said several letters patent, upon which said bill was brought, was vested in your orator, Charles F. Blake, as sole surviving complainant trustee; that the said several letters patent, and each of them, were good and valid in law; that the said Carr and the said Bartholomew respectively were the original and first inventors of the inventions described and claimed in their said several original and reissued letters patent respectively, and that the defendant Kirk had infringed the fourth claim of the said patents, number 76398; and had infringed the first claim of said patent, No. 21734; and had infringed the third claim of said reissued and extended letters patent, No. 978; and that your orator, Charles F. Blake, sole surviving complainant in said suit, should recover the profits, gains, damages, and advantages which the said George R. Kirk had received or made, or which had accrued to him by reason of his said infringement, and its costs; and referred the matter to a master for accounting in the usual form; and ordered a perpetual injunction against the said defendant according to the prayer of the bill, enjoining and restraining him from infringing said several claims of the said letters patent which were then in force.

And your orators further show unto your honors that on or about the 15th day of August, 1872, your orator, Charles F. Blake, and his then co-trustee, Charles M. Keller, filed their bill of complaint in the U. S. circuit court in and for the northern district of Illinois, against Ludwig Wolff, alleging that the said Wolff had infringed, by his manufacture, use, and sale of water closets, the said letters patent upon which this suit is brought.

46 That after the decree had been entered in the said Kirk
case your orator, Charles F. Blake, moved thereon against
said Ludwig Wolff; that thereafter, and on or about the 30th day

of October, 1878, a decree was entered in said Wolff case sustaining your orators' rights in all respects, as in said Kirk case set forth.

And your orators aver and charge the fact to be, that the water closets made and sold by the defendant herein are substantially the same in construction and mode of operation, both as to the completed closet and as to the particular devices set forth and claimed in the patents upon which this suit is brought, as the water closets and devices thereof made and sold by the defendants, Kirk and Wolff, respectively, in said suits aforesaid, held to be infringements of the patents upon which this suit is brought.

And your orators further show unto your honors that on or about the 14th day of October, 1874, the said Charles M. Keller, co-trustee with your orator, Charles F. Blake, departed this life at Milburn, in the State of New Jersey, and that by the terms of the said deeds of trust the said trust devolved unto your orator, Charles F. Blake, as sole surviving trustee.

And your orators further show unto your honors that the said several inventions described in the said several letters patent, the right to which is now vested in your orator, Charles F. Blake, as sole surviving assignee in trust, are of great value, and that he and the said Charles M. Keller, his co-trustee, during his lifetime, have made them of great benefit and advantage to the trust held by him and to the public, and will continue so to do if the infringement by the defendants herein and others be prevented.

Yet the said defendants, well knowing the premises, but contriving and wrongfully intending to injure your orators and to deprive
them of the gains and profits which might and otherwise
47 would accrue to them from the use and sale of the said several inventions, have confederated together jointly to injure your orators, and have sold, and are still selling, great numbers of water closets, each containing and embodying in their construction the said several inventions described and claimed in the several letters patent before recited, the sole and exclusive right to the use, manufacture, and sale of which is vested in your orator, Charles F. Blake, and he fears a continuance of such infringement and violation of your orators' rights, and that they have heretofore sold large numbers of water closets, embodying the several inventions described and claimed in said letters patent No. 978, which have now expired.

And your orators aver and charge the fact to be that the said defendants have been notified of this said infringement, and warned to desist therefrom, but that they have not desisted, but continue the same, to the great damage of your orators, in the sum of fifty thousand dollars.

And your orator, Charles F. Blake, further shows unto your honors that he is able, willing, and anxious to supply all the demand of the public for water closets, embodying the inventions described and claimed in said several letters patent, respectively, and any and all of them.

Which said actings and doings of the said defendants are contrary to equity and good conscience, and tend to the manifest injury of your orator in the premises.

Wherefore your orators pray—

1. That the defendant may answer, under oath, the premises.
2. That they may be enjoined, during the pendency of this suit, from such infringement of said several letters patent now in force.
3. That they may be perpetually enjoined from such infringement.
4. That they may account to the complainants for the water 48 closets and parts thereof sold or used by them in infringement of said several letters patent, and any and all of them, in violation of your orators' said exclusive rights, and for all moneys received from the use and sale thereof, and may be decreed to pay over unto your orators any and all profits made or derived from said sales in violation of your orators' said rights.
5. That they may be decreed to pay the costs of this suit.
6. And that damages to the amount of fifty thousand dollars may be adjudged to your orators against the defendants for such violation of their said exclusive rights and for their infringement.

And for other and further relief, may it please your honors to grant unto your orators—

1. A writ of subpœna, in due and usual form and under the usual penalties, directed to the respondents, John Eaton, Edward H. Cole, William H. Cole, and Edward G. Burnham.
2. A writ of injunction, restraining them from such infringement during the pendency of this suit, and also their agents, attorneys, servants, confederates, and workmen.
3. A writ of injunction, restraining them and their servants, agents, attorneys, confederates, and workmen, from such infringement perpetually.

All duly sealed and tested in due and usual form, and under usual penalties, and directed to said respondents, John Eaton, Edward H. Cole, William H. Cole, and Edward G. Burnham.

4. And such other and further relief as equity may require and to your honors shall seem meet.

CHARLES F. BLAKE,
Trustee, &c.

CHARLES F. BLAKE,
Solicitor and Counsel for Complainant,
16 Murray Street, New York City.

49 UNITED STATES OF AMERICA,
City and County of New York, State of New York, } *ss:*

Charles F. Blake, being duly sworn, says: That he is one of the complainants named in the foregoing bill subscribed by him; that he has read the same and knows the contents thereof, and that the same is true of his own knowledge, except such matters and things as are therein mentioned on information and belief, and as to such matters he verily believes it to be true.

CHARLES F. BLAKE.

Subscribed and sworn to before me, this 7th day of July, 1879.
[SEAL.] PHILLIPS ABBOTT,
Notary Public, Kings and New York Cos.,
State of New York.

50 *Answer.*

United States Circuit Court in and for the Southern District of New York. [In Equity.]

CHARLES F. BLAKE *et al.*, Trustee, Compl't,
vs.
JOHN EATON, EDWARD H. COLE, WILLIAM H. COLE, and EDWARD G. BURNHAM, Def'ts.

To the honorable the judges of the circuit court of the United States in and for the southern district of New York:

The joint and several answers of John Eaton, Edward H. Cole, and Edward G. Burnham, defendants, to the bill of complaint of Charles F. Blake, trustee, &c., William S. Carr, and Sarah M. Bartholomew, complainants.

These defendants now, and at all times hereafter, saving and reserving to themselves, and each of them, all benefit and advantage of exception which can or may be had, or taken, to the many errors, uncertainties, and other imperfections in the said complainants' said bill of complaint contained, for answer thereunto, or unto so much and such parts thereof as these defendants are advised is or are material or necessary for them, or either of them, to make answer unto, they, these defendants, severally answering, say: That they admit, on information and belief, that the several patents, and the extensions and reissues, as in said bill alleged, were granted in the manner, for the purpose, and at the several dates as in said bill set forth; but these defendants deny any knowledge, informa- 51 tion, or belief in respect to the assignments in said bill alleged, or whether the said Charles F. Blake is vested with the said trust, or any trust, in relation to said patents, or either of them, and therefore they deny the same, and leave the complainants to make such proof thereof as they may be advised.

Further answering, these defendants aver that they have no knowledge or belief as to whether the exclusive right claimed to be vested in complainants under and by virtue of said letters patent are of great or any value, or whether the said complainants have been to great or any trouble or expense in attempting to make the said invention of benefit or advantage to themselves, and consequently they deny each and every allegation in said bill in relation thereto.

Further answering, these defendants deny that they, or either of them, have at any time hitherto, or are now, selling the said pretended inventions, or any water closets, or parts of water closets, in any part thereof, substantially the same in construction and operation as the invention mentioned in said letters patent, or either of them, or constructed in whole or in part upon the principle and in the manner of the invention described and covered by and in said letters patent, or either of them; but these defendants admit that, as members of "The Eaton, Cole & Burnham Co.," a corporation duly organized under and in accordance with the laws of the State of Connecticut, and not otherwise, they have sold, and are still selling, water closets constructed in accordance with certain letters patent of the United States granted one John C. Kupferle and one P. White, bearing date April 17, 1877, and numbered 189,562, as they have good and perfect right to do, as thereby they infringe upon no exclusive right that can be claimed by the said complainants under and by virtue of said letters patent, or either of them.

52 And for a further answer and defense against the claim of the above-named complainant, these defendants aver, on information and belief, that neither the said Carr nor the said Bartholomew was the first and original inventor of the improvement set forth and claimed in said letters patent, or either of them, but that, as these defendants are informed and believe, long anterior to any pretended invention thereof by the said Carr or the said Bartholomew, the said several alleged improvements were well known to and practically used publicly by many persons in different parts of the United States, and, among other persons, to the following-named persons, at the places named:

At the Novelty Iron Works, in the city of New York, and at other places in said city, and also at the city of Brooklyn, as will appear by the testimony of Isaac V. Holmes, of Cleveland, Ohio, and others whose names are not now known to these defendants.

Also, the same were known to and used by Robert Kirkup, at Cincinnati, Ohio, where he now resides. Also, the same were known to and publicly used by J. & H. Jones, in White street, New York city, as will appear from the testimony of William Nicoll, residing at No. 156 Tompkins avenue, Brooklyn, and by Charles Harrison, residing in the city of New York.

Also, the same were known to and publicly used by N. G. Garraty, at No. 439 Third avenue, New York city, as will appear by the testimony of Patrick Madden, residing at St. Louis, Missouri.

Also, that the same were so used at the Planter's House, a hotel in Saint Louis, Missouri, as will appear by the testimony of Timothy D. Turner, a resident of said city of Saint Louis, and others at said city.

Also, that the improvements set forth and described in the said letters patent granted said Bartholomew were publicly used and sold by one William S. Carr, in the city of New York, long an-
53 terior to the pretended invention thereof by the said Bartholomew, as will appear by the testimony of N. Sawyer, residing at No. 378 Hoyt street, Brooklyn, New York, and others whose names are not now known to these defendants, and the same were also fully shown and described in certain letters patent of the United States granted said Carr August 5th, 1856, and reissued June 12th, 1860, and numbered No. 978.

Also, that the improvements claimed in said reissue No. 978 were fully shown and described in certain letters patent of the United States granted F. H. Bartholomew, February 4th, 1854, and June

20th, 1854, and in letters patent of the United States granted Thomas Hanson, March 20th, 1855, No. 12549, and in the following English letters patent: No. 8971, granted George Hulme, May 27th, 1841; James Hume, No. 781, dated November 19, 1852; design No. 1633, for a piston cock, registered October 21st, 1848, by William Kirkwood; and also in a printed pamphlet published in London, England, and entitled as follows: "Lambert's Patent High Pressure Valve Cocks, Class XXI, Thomas Lambert & Son, founders and machinists, manufacturers of block tin, &c., &c.," and also in a certain other printed pamphlet published in Edinburgh, Scotland, entitled, "Kirkwood's Registered Water Closets, Baths, &c.;" all of said letters patent and printed publications being long anterior to the date of the pretended invention of said Carr.

Also, that long anterior to the alleged invention of the said Carr of the improvements described and claimed in said letters patent No. 76398, and in the fourth claim thereof, the same were in public use in Cincinnati, Ohio, and Mount Vernon, Ohio, and in other parts of this country, which said uses were known to Frank Milward, of Ludlow, in the State of Kentucky; to J. V. Holmes, who resides in Cleveland, Ohio, and to John W. Hill, who resides at Dayton, Ohio; also the same were so publicly used by one William Smith,
at San Francisco, California, as will appear by the testimony
54 of said Smith, George Milne, and Lawrence McNally, all of
San Francisco aforesaid.

These defendants, further answering, say that they are informed and believe that the said several improvements in said several letters patent claimed were known to and publicly used prior to said alleged invention thereof by said Carr and Bartholomew, by other persons in the United States, whose names are not now known to these defendants, and they crave leave to set the same up in an amended answer when they shall have obtained definite information thereof.

Wherefore these defendants humbly submit and insist that under the facts and circumstances as above alleged the said complainants have no right to any further or other answer to said bill or any part thereof, than as above given, and no right of injunction, account, or other relief prayed for in said bill, and they therefore ask to be hence dismissed, with their reasonable costs and charges in this behalf most wrongfully sustained.

EDWARD H. COLE.

SAM'L S. BOYD,
421 Olive St., St. Louis, *D'f'ts' Sol'r.*

UNITED STATES OF AMERICA, } ss:
Southern District of New York, }

Edward H. Cole, being duly sworn for himself and his co-defendants, deposes and says, That he has read the foregoing answer, and knows the contents thereof, and that the same is true of his own knowledge, except such matters and things as are therein mentioned on information and belief, and as to such matters he verily believes it to be true.

EDWARD H. COLE.

Subscribed and sworn to before, me this 1st day of Sept., A. D. 1879.

J. M. DEUL, *U. S. Comm'r.*

55 *Replication.*

Circuit Court of the United States for the Southern District of New York. (In Equity.)

CHARLES F. BLAKE, Trustee, &c., *et als.*,
vs.
JOHN EATON, EDWARD H. COLE, WILLIAM COLE and E. G. BURNHAM.

The replication of Charles F. Blake, trustee, &c., William S. Carr, and Sarah M. Bartholomew, complainants to the answer of John Eaton, Edward H. Cole, William Cole, and Edward G. Burnham, defendants.

These repliants, saving and reserving unto themselves all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for replication thereunto, say That they will aver and prove their said bill to be true, certain, and sufficient in the law to be answered unto; and that the said answer of defendant is uncertain, untrue, and insufficient to be replied unto by these repliants; without this, that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true. All which matters and things these repliants are and will be ready to aver and prove as this honorable court shall direct, and humbly pray as in and by their said bill they have already prayed.

CHARLES F. BLAKE,
Solicitor for Complainant,
16 *Murray Street, New York City.*

Dated at New York city, the 3d day of December, 1879.

56 United States Circuit Court, Southern District of New York. (In Equity.)

CHARLES F. BLAKE, Trustee, &c., *et als. vs.* JOHN EATON *et als.*

It is hereby stipulated and agreed by and between the counsel for the respective parties herein that the record and exhibits put in evidence by the complainants in the case of these complainants against The McNab and Harlan Manufacturing Company and John Harlan, in this court, as part of the complainants' *prima facie* case therein, shall stand and remain in evidence as the complainants' *prima facie* case herein, so far as the same may apply, with as full force and effect as though duly taken herein according to the rules of practice in such case made and provided.

CHARLES F. BLAKE,
Solicitor for Complainant.
SAMUEL S. BOYD,
Solicitor for Defendants.

New York, January 26th, 1880.

57 United States Circuit Court, Southern District of New York.
(In Equity.)

CHAS. F. BLAKE, Trustee, *et al.* *vs.* JOHN EATON *et al.*

SAME *vs.* McNAB & HARLAN MANUFACTURING CO. *et al.*

It is hereby stipulated by and between the respective solicitors in the above causes that the printed record of complainants and defendants in the cases of C. M. Keller *et al.* *vs.* Thos. Gibson *et al.*, U. S. circuit court, southern district of Ohio, Equity No. 1596, and of same plaintiff *vs.* G. R. Kirk, in U. S. circuit court, eastern district of Pennsylvania, Equity No. 72, including testimony and exhibits, may, so far as the same are pertinent, be used and read in evidence by either party to the above causes, with same force and effect as if regularly taken before a master duly appointed, each party being at liberty to take such further evidence as may be desired.

New York, January 26th, 1880.

CHARLES F. BLAKE,
Solicitor for Complainants.
SAMUEL V. BOYD,
Defendants' Solicitor.

58 United States Circuit Court, Southern District of New York.
Equity.

CHARLES F. BLAKE, Trustee *et al.*, *vs.* JOHN EATON *et al.*

SAME *vs.* McNAB & HARLAN MANUFACTURING CO. *et al.*

It is hereby stipulated and agreed by and between the counsel for the respective parties herein, that the record and exhibits put in evidence by the defendant in the cases of these complainants against E. E. Boisselier *et al.*, in the U. S. circuit court, eastern district of Missouri, shall stand as and for the evidence on the part of the defendants herein, so far as the same may be pertinent, with a full force and effect as though duly taken herein according to the rules of practice in such case made and provided.

March 11th, 1880.

CHARLES F. BLAKE,
Solicitor and Counsel for Complainant.
SAMUEL S. BOYD,
Counsel for Defendants.

59 *U. S. C. C., S. D. N. Y. Blake, Trustee, vs. McNab and Harlan.*
Complts' Exh. Kirk Decree. E. G. T., Ex'r.

In the Circuit Court of the United States, in and for the Eastern District of Pennsylvania, in the *the* Third Circuit. In Equity. Patent.

KELLER AND BLAKE, Trustees,
vs. No. 72. April Session, 1874.
GEORGE R. KIRK.

This cause came on to be heard and was argued by counsel, and thereupon, upon consideration thereof, it is ordered, adjudged, and decreed that the letters patent referred to in the bill, granted to Willliam S. Carr April 7th, 1868, and numbered 76398, are valid, and that the said William S. Carr is the first inventor of said invention described in said letters patent, and the defendant, George R. Kirk, has infringed the fourth claim of said letters patent and the exclusive rights of the complainants thereunder. And it is further adjudged and decreed that the letters patent reissued on May 12, 1874, to Charles M. Keller and Charles F. Blake, trustees, and numbered Reissue, Division A, No. 5866, and Reissue, Division B, No. 5867, are valid, and that the said William S. Carr is the original and first inventor of the invention described and claimed in said reissued letters patent, and that the defendant, George R. Kirk, has infringed the said reissued letters patent and the exclusive rights of complainants thereunder.

60 And it is further ordered, adjudged, and decreed that the letters patent referred to in the bill granted to Frederick H. Bartholomew on the 12th day of October, A. D. 1858, and extended on the 2d day of October, 1872, and numbered No. 21734, are valid; and that the said Frederick H. Bartholomew is the original and first inventor of the invention described in said letters-patent, and that the defendant, George R. Kirk, has infringed the first claim of said letters patent and the exclusive rights of the complainants thereunder.

And it is further ordered, adjudged, and decreed that the letters patent reissued to Frederick H. Bartholomew November 13, 1860, and extended on the 19th day of June, A. D. 1868, and numbered No. 1072, are valid; and that the said Frederick H. Bartholomew is the original and first inventor of the invention described and claimed in said letters patent, and that the defendant, George R. Kirk, has infringed the said letters patent and the exclusive rights of the complainants thereunder.

And it is further ordered, adjudged, and decreed that the letters patent referred to in the bill, reissued to William S. Carr on the 12th day of June, 1860, and extended on the 23d day of July, A. D. 1870, and numbered reissue No. 978, are good and valid, and that William S. Carr is the original and first inventor of the invention described in the said reissued letters patent, and that defendant, George R. Kirk, has infringed the third claim of said reissued letters patent and the exclusive rights of the complainants thereunder.

And it is further ordered, adjudged, and decreed that the surviving complainant, Charles F. Blake, in whom the title to each of the foregoing letters patent is now vested, do recover of the defendant, William Kirk, executor of George R. Kirk, deceased, the profits, gains, damages, and advantages which the said George R. Kirk has received or made, or which have arisen or accrued to him by reason of the said infringements of said letters patent.

61 And it is further ordered, adjudged, and decreed that the said complainant, Charles F. Blake, do recover of said William Kirk, executor as aforesaid, his costs in this suit to be taxed.

And it is further ordered, adjudged, and decreed that this cause be referred to Samuel Bell, Esq., as master, to ascertain and take and state and report to the court an account of the gains, profits, and advantages which the said defendant, George R. Kirk, or his said executor, William Kirk, has received, or which have accrued to either of them by reason of the infringements of the said several letters patent, and also that the master assess the damages, if any, sustained by the complainants, by reason of such infringements of said several letters patent; and for the better taking of said account and assessing said damages, the master is authorized to examine all parties on oath, and to compel the production of all books, vouchers and papers in their custody or power relating thereto, in such manner as he may direct.

And it is further ordered, adjudged, and decreed that a perpetual injunction be issued in this suit against the said defendant, William Kirk, his officers, clerks, servants, agents, attorneys, and workmen, restraining them, and each of them, from making, using, or vending for others to use, the invention described and claimed in the fourth claim of letters patent granted to William S. Carr on the 7th day of April, 1868, and numbered No. 76398, and the inventions described and claimed in letters patent, reissued to Charles M. Keller and Charles F. Blake, trustees, on the 12th day of May, A. D. 1868, and numbered, respectively, Reissues, Division A, No. 5866, and Division B, No. 5867, and the invention described and claimed in the first claim of letters patent, granted to Frederick H. Bartholomew on the 12th day of October, A. D. 1858, and extended on the 2d day of October, A. D. 1872, and numbered No. 21734, or any of them.

62 The foregoing order and decree is substituted in place of the order and decree entered on the eighth day of October, A. D. 1878, which order and decree is hereby vacated.

By the court, October 18, 1878.

(A true copy certified from the records.)

[SEAL.] SAMUEL BELL,
Clerk Circuit Court U. S.

Blake vs. McNab & Harlan Mf'g Co. Compl't's Exh. Wolff Decree. E. G. T., Ex'r.

United States Circuit Court. Northern District of Illinois. In Chancery.

WEDNESDAY, *Oct'r 30th, A. D.* 1878.

Present: the Hon. Henry W. Blodgett, district judge.

CHARLES M. KELLER and CHARLES F. BLAKE, Trustees,
vs.
LUDWIG WOLFF.

On motion of counsel for complainants and upon the bill of complaint herein, and on reading and filing a certified copy of the opinion of his honor, Judge McKennan, circuit judge for the third circuit, rendered after final hearing in the case of these complainants against George R. Kirk, which said case covered all the matters at issue herein, and also upon consent of the defendant herein, it is ordered, adjudged, and decreed that the letters patent referred to in the bill granted to William S. Carr April 7th, 1868, and numbered 76398, are valid, and that the said William S. Carr is 63 the first inventor of said invention described in said letters patent, and the said defendant has infringed the fourth claim of said letters patent and the exclusive rights of the complainant thereunder. And it is further adjudged and decreed that the letters patent reissued on May 12, 1874, to Charles M. Keller and Charles F. Blake, trustees, and numbered Reissue, Division A, No. 5866, and Reissue, Division B, No. 5867, are valid, and that the said William S. Carr is the original and first inventor of the invention described and claimed in said reissued letters patent, and that the said defendant has infringed the said reissued letters patent and the exclusive rights of the complainants thereunder. And it is further ordered and decreed that the letters patent referred to in the bill granted to Frederick H. Bartholomew on the 12th day of October, A. D. 1858, and extended on the 2d day of October, 1872, and numbered No. 21734, are valid, and that the said Frederick H. Bartholomew is the original and first inventor of the invention described in said letters patent, and that the said defendant has infringed the first claim of said letters patent and the exclusive rights of the complainants thereunder. And it is further ordered, adjudged, and decreed that the letters patent reissued to Frederick H. Bartholomew November 13, 1860, and extended on the 19th day of June, A. D. 1868, and numbered No. 1072, are valid, and that the said Frederick H. Bartholomew is the original and first inventor of the invention described and claimed in said letters patent, and that the said defendant has infringed the said letters patent and the exclusive rights of the complainants thereunder. And it is further ordered, adjudged, and decreed that the letters patent referred to in the bill, reissued to William S. Carr on the 12th day of June, 1860, and extended on the 23d day of July, A. D. 1870, and numbered reissue No. 978, are good and valid, and that William S. Carr is the original and first inventor of the in- 64 vention described in the said reissued letters patent, and that said defendant has infringed the third clam of said reissued letters patent, and the exclusive rights of the complainants thereunder. And it is further ordered, adjudged, and decreed that the surviving complainant, Charles F. Blake, in whom the title to each of the foregoing letters patent is now vested, do recover of the defendant the profits, gains, damages, and advantages which the said defendant has received or made, or which have arisen or accrued to him by reason of said infringement of said several letters patent by him. And it is further ordered, adjudged, and decreed that the said complainant, Charles F. Blake, do recover of said defendant his costs in this suit to be taxed. And it is further ordered, adjudged, and decreed that this defendant, having admitted and now admitting that he has infringed the said several letters patent, to the damage and cost to the said complainant in the sum of five thousand dollars, as estimated by the number of closets made or sold by said defend-

ant, and the royalty for each closet recognized and paid by many parties to the complainant, that the complainant do recover of the said defendant the said sum of five thousand dollars as the profits, gains, damages, and advantages which the said defendant has received or made, or which have arisen or accrued to him by reason of said infringements of said several letters patent by him. And it is further ordered, adjudged, and decreed that a perpetual injunction be issued in this suit against the said defendant, Ludwig Wolff, his officers, clerks, servants, agents, attorneys, and workmen, restraining them, and each of them, from making, using, or vending for others to use, the invention described and claimed in the fourth claim of letters patent granted to William S. Carr, on the 7th day of April, 1868, and numbered No. 76398; and the inventions described and claimed in letters patent reissued to Charles M. Keller and Charles F. Blake, trustees, on the 12th day of May, A. D. 1868, and
65 numbered, respectively, Reissues, Division A, No. 5866, and Division B, No. 5867; and the invention described and claimed in the first claim of letters patent granted to Frederick H. Bartholomew, on the 12th day of October, A. D. 1858, and extended on the 2d day of October, A. D. 1872, and numbered No. 21734, or any of them.

NORTHERN DISTRICT OF ILLINOIS, *ss:*

I, William H. Bradley, clerk of the circuit court of the United States for said northern district of Illinois, do hereby certify the above and foregoing to be a true and correct copy to the order entered of record in said court, on the 30th day of October, A. D. 1878, in the cause wherein Charles M. Keller and Charles F. Blake, trustees, are the complainants, and Ludwig Wolff is the defendant, as the same appears from the original record thereof, now remaining in my custody and control.

In testimony whereof, I have hereunto set my hand and affixed the seal of said court, at my office in Chicago, in said district, this 29th day of January, A. D. 1879.

[L. S.] WM. H. BRADLEY, *Clerk.*

Blake, Trustee, et al., vs. McNab & Harlan M'f'g Co. Complainants' Exh'b. Abbott Receipt. E. G. T., Ex'r.

$6.00. NEW YORK, *June* 25, 1879.

Received of Mr. Abbott six dollars for one each Sullivan and Stone and Kupferle and Boisseler I X L closet.

McNAB & HARLAN M'F'G CO.

66 *Blake, Trustee, &c., et als., vs. McNab and Harlan M'f'g Co.*
Complainants' Exhibit "Statement." E. G. T., Ex'r.

P. O. Box 799. McNAB AND HARLAN M'F'G CO.,
NEW YORK, *Nov. 1st*, 1878.

Number of closets bought by McNab & Harlan Man'f'g Co. from Kupferle & Boisselier between Jan., '78, and Jan. '78__ 1,208
Number bought by Same from Sullivan & Stone in 1876____ 123

McNAB & HARLAN MAN'F'G CO.,
J. W.

Mr. CHARLES F. BLAKE,
16 *Murray St., New York City.*

United States Circuit Court, Southern District of New York. In Equity.

CHARLES F. BLAKE, Trustee, &c., WILLIAM S. CARR, and SARAH M. BARTHOLOMEW
vs.
THE McNAB & HARLAN MANUFACTURING COMPANY and JOHN HARLAN.

Proofs on the part of the complainants for final hearing, taken before Edward G. Thompson, one of the standing examiners of this court, under and pursuant to the 67th rule in equity, as amended, and pursuant to notice.

67 NEW YORK, *December* 17, 1879.

Present: Charles F. Blake, counsel for complainant.

Counsel for defendants, S. S. Boyd, Esq., consents that the complainants may take their *prima facie* case in his absence, reserving to him all right of objection and cross-examination.

PHILLIPS ABBOTT, a witness produced on the part of complainants, being first duly sworn, in answer to interrogatories propounded by Mr. Blake, says as follows:

1 Q. What is your name, age, residence, and occupation?

A. Phillips Abbott; I am 29 years of age; I reside at 41 Pierrepont street, Brooklyn, New York; I am the managing clerk in the office of Charles F. Blake, Esq., 16 Murray street, New York city, counsel for complainants herein.

2 Q. Have you ever, and, if yea, when, purchased any water closet or closets, or parts thereof, from the McNab & Harlan Manufacturing Company of the city of New York? Please state fully.

A. I have; on the 25th day of June, 1879, I called at the place of business of the McNab & Harlan Manufacturing Company, 56 John street, New York city, and there saw Mr. John Harlan; I told him I had come to get, if possible, one of the Kupferle & Boisselier water closets sold by them, and referred to in their statement, or letter, to Mr. Blake, dated the last day of November, 1878.

After some conversation, we found one of the said Kupferle & Boisselier closets; the pan lever, pull, and bridge of the closet we could not find, but we did find the supply cock attached to it.

I bought this closet from Mr. Harlan and paid him therefor, and took it away with me that day; I took a receipt for it, together with another closet which I bought at that time also.

68 Mr. Harlan said that this closet was identical, so far as it was complete, with the closets they referred to in the said statement or letter as the "Kupferle & Boisselier."

3 Q. Where has this closet been since you purchased it?

A. In my possession; also the receipt.

4 Q. Will you produce them?

A. I will, and I now do so.

Counsel for complainants offers in evidence the said Kupferle & Boisselier water closet, and the same is marked Complainant's Exhibit Kupferle & Boisselier; E. G. T., Ex'r.

Also the cock attached to said Kupferle & Boisselier water closet, and the same is marked Complainants' Exhibit Kupferle & Boisselier Supply Cock; E. G. T., Ex'r.

Also the said receipt, and the same is marked Complainants' Exhibit Abbott Receipt; E. G. T., Ex'r.

Also the said statement or letter from the McNab & Harlan Manufacturing Company to Charles F. Blake, dated November 1st, 1878. And the same is marked Complainants' Exhibit Statement; E. G. T., Ex'r.

Direct examination closed.

PHILLIPS ABBOT.

Subscribed and sworn to before me, this 27th day of December, 1879.

E. G. THOMPSON, *Examiner*.

Right of objection and cross-examination reserved to counsel for defendants.

Adjourned to December 20, 11 a. m.

69 BLAKE, Trustee, &c.,
vs.
McNAB & HARLAN MANUFACTURING CO.,

NEW YORK, *Dec.* 20, 11 *a. m.*, 1879.

Present: Counsel for complainant, as before.

Counsel for complainant offers in evidence a certified copy of the reissued and extended letters patent of the United States, with certificate of extension attached thereto, granted unto William S. Carr, and dated June 12, 1860, numbered 978, and the same is marked Complainants' Exhibit Carr Patent; E. G. T., Examiner.

Also a certified copy of the United States letters patent granted unto Frederick H. Bartholomew 12th October, 1858, and extended, with certificate of extension attached thereto, and numbered 21734. And the same is marked Complainants' Exhibit Bartholomew Patent; E. G. T., Ex'r.

Also a duly certified copy of the decree in the case of Chas. M.

Keller and Chas. F. Blake against George R. Kirk, in the United States circuit court, in and for the eastern district of Pennsylvania, made the 18th day of October, 1878. And the same is marked Complainants' Exhibit Kirk Decree; E. G. T., Examiner.

Also certified copy of the decree in the case of Charles M. Keller and Charles F. Blake against Ludwig Wolff, in the United States circuit court, in and for the northern district of Illinois, made the 30th day of October, 1878. And the same is marked Complainants' Exhibit Wolff Decree; E. G. T., Ex'r. 70

And the witness, William S. Carr, called on behalf of the complainants, in answer to interrogatories propounded by Mr. Blake, says as follows:

1 Q. What is your name, age, residence, and occupation?

A. William S. Carr; I am 49 years of age; I reside in New York city; I am a manufacturer of plumbers' supplies, including water closets and their attachments.

2 Q. Are you the patentee of the invention described and claimed in the Carr patent set up in the bill herein?

A. I am.

3 Q. Please state fully what experience you have had as a manufacturer of water closets and their attachments, and whether or not you are familiar with the various water closets that have been in the markets of the United States for the past few years?

A. I am thoroughly familiar with most, if not all, of the water closets, patented and otherwise, that have been used in this country for the past twenty-five years.

I am the inventor of many improvements in water closets and other plumbers' supplies, and I am the inventor of the invention described and claimed in one of the patents here sued on. Most of my improvements have been patented.

I have for many years been experimenting in improvements in water closets, and I am thoroughly familiar and conversant with the construction and operation of most, if not all, of them now in use.

I am thoroughly acquainted with the water closet and its attachments, for the sale of which these defendants are sued, to wit, that known as the Kupferle and Boisselier Water Closet, and I have very many times examined them carefully and their attachments, and I have seen great numbers of them both on sale and set up ready for use.

71 I have been for about twenty-three years last past engaged in the manufacture of water closets and their attachments, and have myself personally superintended the actual manufacture of them in all their branches, and I am personally familiar with all practical features of their manufacture, adjustment, and use; I have made water closets of various forms and with all kinds of attachments.

4 Q. Have you read the Complainants' Exhibit "Carr Patent," E. G. T., Ex'r, being reissued letters patent granted to Wm. S. Carr the 12th day of June, 1860, and extended, and numbered 978, and do you understand the invention therein described and claimed?

A. I have frequently read the said reissued patent; it is a patent granted to me; and I do fully understand the invention therein set forth and claimed.

5 Q. Please look at Complainants' Exhibit "Kupferle & Boisselier," E. G. T., Ex'r, and Complainants' Exhibit "Kupferle & Boisselier Supply Cock," E. G. T., Fx'r, and state if you know what they are.

A. I have examined them, and they are respectively a Kupferle & Boisselier water closet and a Kupferle & Boisselier supply-cock, such as were usually sold with the Kupferle & Boisselier water closet; these were both manufactured by Kupferle & Boisselier.

6 Q. Please examine the supply cock and Complainants' Exhibit "Kupferle & Boisselier Supply-Cock," and compare it with reissued letters patent Complainants' Exhibit "Carr Patent," in regard to the invention described therein and referred to in the third claim thereof, and state whether or not, in your opinion, the construction and mode of operation of said exhibit is substantially the same as is described in said reissued patent and referred to in the third claim thereof, giving your reasons for any opinion you may express.

72 A. I have carefully made the comparison called for in the question, and I believe the said supply-cock, Complainants' Exhibit "Kupferle & Boisseler Supply-Cock," does embody the invention set forth in said patent and claimed in the third claim thereof, for the following reasons: The invention referred to in the third claim of the patent is a combination of a valve for a water closet with a variable chamber and with a cup leather, in such manner that the valve is caused to close slowly by the operation of the cup leather, which as a tight packing, prevents the passage of the water when the valve attempts to close, and which cup leather, when the valve is being opened, allows the water to pass it and fill the cylinder above it, as set forth in the patent.

The cup leather acts both as a valve and as a packing. In this Carr patent the cavity of the variable chamber is shown in the upper part of figure 3. It is provided with a piston or stem with a cup leather, shown at *m*, and with a small aperture alongside of the screw 9, which aperture permits the gradual escape of water from the chamber; the valve is shown at *g*. All parts of the cavity shown in figure 3 are filled with water when the contrivance is ready for operation, and the valve is held upon its seat by the spiral spring *i*. When the valve stem *h* is depressed the valve is opened rapidly, owing to the fact that the cup leather then acts as a valve and permits water to pass it freely; when the force which depressed the valve stem is removed, then the spring *i* tries to shut the valve, and finally does close it, but shuts it very slowly, owing to the fact that the cup leather now acts as a tight packing, being forced by the pressure of the water against the wall of the variable chamber; therefore the water can only escape from the variable chamber slowly through the small orifice alongside of the screw, and the shutting of the valve is controlled and retarded, so that it cannot move faster than the escape of water through this small aperture permits it to move.

73 In the defendants' water closet there is a brass casting or supply-cock, mounted in the drip box attached to the side of

the receiver. This brass casting or cock consists in part of a cylindrical portion, which constitutes the body of the cock; at one end thereof there is attached, by a screw coupling, an inlet pipe, through which the water enters the cock; the other end of the cylinder is closed with a flat cap-piece, through which passes a plunger-rod, which rod connects inside the cock with a stem, at the further end of which stem is fastened a valve, which closes upon a valve-seat formed in the cylinder.

This stem is surrounded by a stiff spiral spring, the purpose of which is to close the valve at the further end of the stem.

Attached to the stem and within the cylinder is a cup-shaped piece of leather, so attached thereto that the open end of the cup is presented to the end of the cylinder which is opposite the inlet pipe; the outlet pipe is attached to the cylinder in that half thereof which is nearest the inlet pipe and between the bottom of the cup-shaped piece of leather and the valve before referred to.

The operation of this cock is as follows:

When it is desired to open the valve, force is applied through the pan lever of the closet to the exposed end of the plunger outside of the cylinder of the cock in such a direction as to force the plunger, the stem, the cup leather attached to the stem, and the valve at the further end of the stem all toward the inlet pipe of the cock, these parts moving through the cylinder and compressing the spiral spring which is around the stem; thus, the valve being open, the water from the inlet pipe rushes forcibly into the cock, through the valve and outlet pipe, into the closet, and also a portion of it past the sides of the cup leather, which, partially contracting in such a manner as to make the diameter of the mouth of the cup smaller, freely allows the passage of the water in this direction; thus, that portion
74 of the cylinder which is between the cup leather and the end of the cylinder through which the plunger passes is filled with water.

When the force applied to the end of the plunger ceases the stiff spring surrounding the stem immediately acts to close the valve quickly, but as soon as this takes place the water above the cup leather, seeking to escape past it into the cylinder beyond, catches in the edge of the cup leather, and they are almost instantly sprung outwards, and come into forcible contact with the sides of the cylinder, and prevent the escape of this portion of the water; the cock would be held in this position and would allow the water from the inlet pipe to pass continuously into the closet through the cock and outlet pipe, were it not that there is provided a means for the water above the cup leather to escape, which consists in a small hole in the side of the cylinder, near the end thereof where the plunger enters, connecting by a small inclosed channel with the portion of the cylinder beyond the cup leather. The escape of the otherwise imprisoned water through this small channel regulates and governs the closing of the valve, which is made more or less rapid, as desired, by increasing or retarding the flow of the water through this small channel by means of a screw valve in it.

The mode of operation of this contrivance is therefore substantially the same as that of the Carr patent 978; in both there is a variable chamber above the cup leather in which the water is confined where the spring acts to close the valve; both have a cup leather which at one time acts as a packing and at another as a valve; and both have a small opening or passage which permits the water to escape slowly when the valve is closing, and both have a valve and inlet and outlet pipes.

What I have called the plunger and stem in the Kupferle & Boisselier closet I consider the same thing as the "stem," so-called, of the Carr patent; the joint of the inlet pipe, of the small screw valve of the outlet pipe, and of the plunger or stem, are all made tight by suitable packings of leather.

75 I am therefore of the opinion that the water closet of the defendants does contain the invention set forth and claimed in the third claim of said patent 978, and in giving this as my opinion I have taken into consideration the fact that there are certain differences in certain parts of the two cocks, more especially that the small escape passages are not exactly identical, and that the body of the cock of the patent is not a cylinder from end to end, as is that of defendants' closet; but I deem these differences formal merely, and they do not at all affect the relative operation of the parts, because precisely the same result is attained in both cases by means of the same operation of the same parts acting in combination with each other in the same way.

7 Q. Have you read and do you understand the invention described and claimed in the letters patent granted unto Fred'k H. Bartholomew, dated the 12th October, 1858, and extended, numbered 21734, the same being Complainants' Exhibit "Bartholomew Patent," E. G. T., &c.?

A. I have frequently and carefully read the said patent, and I believe I understand the invention therein described and claimed.

8 Q. Please examine the water closet, Complainants' Exhibit "Kupferle and Boisselier," and compare it with the said patent, Complainants' Exhibit "Bartholomew Patent," in regard to the invention described therein, and referred to in the first claim thereof, and state whether or not, in your opinion, the construction and mode of operation of said exhibit is substantially the same as that described in said patent, and referred to in the first claim thereof, giving your reasons for any opinion you may express.

A. I have made the examination and comparison called for in the question, and I am of the opinion that the said Complainants' Exhibit "Kupferle & Boisselier," E. G. T., does contain the invention described in said patent, Complainants' Exhibit "Bartholo-
76 mew Patent," and referred to in the first claim thereof, for the following reasons: This claim, as I understand it, is to a combination of a drip box, a supply cock, and a receiver, container, or trunk of the closet, the drip box being arranged below and around the supply cock, so, in the words of the patent, "that any waste or leak or drip from the cock shall be conducted into the trunk so as to insure the keeping of the floor dry."

As the drip-box is arranged below and around the cock it must receive the leak from the joints thereof, and as there is a passage leading from it into the receiver or trunk of the water closet, the water which flows into the drip-box must pass through the receiver into the soil pipe, and the floor will, therefore, be kept dry, which is the object sought for by the invention specified in the first claim of the patent. The patent describes the drip-box as arranged above the closet, and it is represented in that situation in the drawings. The patent states that "any desirable form or modification of supply cock may be used."

The water closet, Complainants' Exhibit "Kupperle & Boissilier," has a receiver or trunk, being an iron vessel with a spherical bulge; also a supply cock, which is the brass casting with its valve, &c., (the casting containing the valve and spherical chamber is shown in Fig. 2 of the drawings of the patent,) the brass castings, &c., being the supply cock referred to in the claim, and also a drip-box cast on to the side of the trunk or receiver and arranged below and around the supply cock. This water closet also has a small orifice in the trunk or receiver located adjacent to the drip-box, and so arranged with reference to it that any drip or leak received into the drip-box shall flow through the orifice into the receiver or trunk, and thence into the soil-pipe.

The supply cock, the drip-box, the orifice from the drip-box leading into the receiver, the receiver itself, and the arrangement of the drip-box below and around the supply cock are all the same
77 as described in said patent, Complainants' Exhibit "Bartholomew Patent," No. 21734.

In this water closet, however, the drip-box is arranged on one side of the receiver just at the top thereof, and not upon the top, as described and shown in said patent; but I consider this change of position as formal merely, and not substantial, because precisely the same result is attained in both cases, and because this result is attained in both cases by means of the same operation of the same parts acting in combination with each other, as in the patent.

And I therefore conclude that the water closet of defendants does contain the invention claimed in the first claim of this patent, Complainants' Exhibit Bartholomew Patent, No. 21734, although the claim does not contain the words, "leak chamber arranged above the closet."

9 Q. Are you one of the complainants in this bill?

A. I am.

10 Q. Are or not the devices of the drip-box and the gradually closing valve of the supply cock, concerning which you have just testified, important features in water closets made and sold at the present time and formerly?

A. Yes; they are, and for many years last past no closet could be sold as complete and first-class unless these two features were attached to it. All the closets of this kind that we have made for many years last past have been provided with them, and every other first-class closet now in the market, or that has been for many years, of this kind has had them. Plumbers and builders will not buy closets without them.

11 Q. Please state what, if any, litigation has been prosecuted heretofore on these patents, and what, if any, expense has been incurred thereby by those owning the said patents.

A. These patents, with others, have for many years been held and owned first by Messrs. Keller & Blake, and after Mr. Keller's death by Mr. Charles F. Blake, one of the present complainants, in trust for myself and Mrs. Sarah M. Bartholomew, and they are now so held and owned by Mr. Blake, and I am a beneficiary under this trust, and so is Mrs. Sarah M. Bartholomew, also one of the complainants; in the month of July, 1874, we instructed our trustees, Charles M. Keller and Charles F. Blake, to commence suit against one George R. Kirk, of Philadelphia; this suit was one of several commenced at that time; the defendant, Kirk, duly appeared and filed his answer; testimony was taken at great length and great expense by both parties for final hearing; the expense contingent upon this litigation against Kirk and that against many others incurred by my firm has been upwards of $25,000; the said Kirk case was argued in Pittsburg, before the Honorable Judge McKennan, in May or June, 1876; thereafter, and in April, 1878, the said judge requested a reargument of the case, and it was reargued in October, 1878; and thereafter a decision was made in the case in our favor and Kirk held to have infringed by the manufacture and sale of his water closets; the claims infringed were the first claim of Complainants' Exhibit "Bartholomew Patent" herein, and the third claim of the Complainants' Exhibit "Carr Patent;" a decree as above was entered in this Kirk case on the 18th day of October, 1878, and immediately thereafter a like decree was entered in the case of Keller & Blake *vs.* Ludwig Wolff, in the United States circuit court for the northern district of Illinois; this decree was entered on the 30th day of October, 1878, I think; the suit was upon the same patents as the Kirk case. 78

12 Q. How were the Kirk closets and the Wolff closets constructed with reference to the drip-box and the supply cock?

A. Almost identically the same as the Kupferle & Boisselier closet sold by the defendants in this suit, one of which is Complainants' Exhibit "Kupferle & Boisselier;" their arrangement and operation was precisely the same. When I say "almost identical," I mean that there may have been slight differences in dimensions of the several parts, but the principle and operation was the same, so far as the drip-box and supply cock are concerned, as those devices in the Complainants' Exhibit "Kupferle & Bosselier," in this suit. 79

13 Q. What, if any, effect has the infringement of these defendants and other defendants had upon the business of your firm?

A. These defendants have sold very many of these Kupferle & Boisselier water closets, and the business of my firm has been seriously interfered with by such sales.

These Kupferle & Boisselier closets are very inferior to those made and sold by my firm, and by the competition of these defendants and other infringers (against many of whom we have commenced suits) the market price of our closets has been reduced more than two-thirds the original price; and not only have our prices been reduced, but our sales also, for many of our customers have been induced to purchase the closets of these defendants, like Complainants' Exhibit Kupferle & Boisselier, on account of the low prices at which they sell them, which they can do because their closets are much cheaper in construction and generally less expensive than ours.

We have lost money on our manufacture of water closets for a number of years last past, because we have kept up the high standard of our closets.

13 Q. Did you inform these defendants that they were infringing your rights under the patents you have testified to before they expired?

A. Yes, and requested them to desist, but they did not 80 when I requested them to, although I have been informed that they have ceased selling these closets now.

WM. S. CARR.

Subscribed and sworn to before me, this 20th Dec., 1879.

E. G. THOMPSON, *Examiner*.

Right of objection and cross-examination reserved for counsel for defendants. Cross-examination waived.

United States Circuit Court, Southern District of New York. In Equity.

CHARLES F. BLAKE, as Trustee, &c., WILLIAM S. CARR and SARAH M. BARTHOLOMEW

vs.

JOHN EATON, EDWARD H. COLE, WILLIAM H. COLE, and EDWARD G. BURNHAM.

Proofs on the part of the complainants for final hearing taken before Edward G. Thompson, Esq., one of the standing examiners of this court, under and pursuant to notice.

NEW YORK, *December 23d*, 1879.

Present: Charles F. Blake, counsel for complainants.

S. S. Boyd, Esq., counsel for defendants, consents that the complainant may take their *prima facie* case in his absence, reserving to him all right of objection and cross-examination.

81 PHILLIPS ABBOTT, a witness called on behalf of the complainants, being first duly sworn, in answer to interrogatories propounded by Mr. Blake, says as follows:

1 Q. What is your name, age, residence, and occupation?

A. Phillips Abbott; I am 29 years of age; I reside at 41 Pierrepont street, Brooklyn, New York; I am the managing clerk in the office of Charles F. Blake, Esq., 16 Murray street, New York city, counsel for the complainants herein.

2 Q. Have you ever purchased any water closet or water closets from Eaton, Cole & Burnham, of New York city?

A. No; I went to their store, 58 John street, New York city, on the 25th day of June, 1879, for the purpose of buying one of the closets sold by them, but I could not find any at their store.

3 Q. State fully what conversation, if any, took place between yourself and the person or persons whom you saw at defendants' store at the time of your visit there.

A. I saw Mr. Cole, who said he was a member of the firm; he further said they were for some time prior to about two years before my call—that is to say, prior to June, 1877—agents for Kupferle & Boisselier, and had sold the closets made by them; I asked Mr. Cole if he could show me one of the Kupferle & Boisselier water closets sold by them as such agents; he said he didn't think there was one in the store at that time, but he gave me permission to look for one, and instructed one of the porters to go with me and try to find one for me; the porter and I made a careful search, but we could not find any; Mr. Cole further admitted to me that the closets 82 sold by them were the regular Kupferle & Boisselier closets, and that the attachments thereto were the attachments usually sold with such closets.

Right of objection and cross-examination reserved for counsel for defendants.

PHILLIPS ABBOTT.

Subscribed and sworn to before me, this 23d day of December, 1879.

E. G. THOMPSON, *Examiner.*

Adjourned to Dec. 30, 1879, 11 a. m.

U. S. C. C., S. D. N. Y. Equity.

BLAKE, Trustee, &c., *et als. vs.* JOHN EATON *et als.*

NEW YORK, *December 30th*, 1879, at 11 a. m.

Present: Counsel for complainant.

And the witness, WILLIAM S. CARR, called for complainants, in reply to interrogatories propounded by Mr. BLAKE, says as follows:

1 Q. What is your name, age, residence, and occupation?

A. My name is William S. Carr; I am 49 years of age; I reside in New York city; I am a manufacturer of plumbers supplies, including water closets and their attachments.

2 Q. Are you the William S. Carr who testified for complainants in the case of Charles F. Blake, trustee, &c., *et als. vs.* The McNab and Harlan Manufacturing Company, in the United States circuit court in and for the second circuit and southern district of New York, on the 20th day of December, 1879?

A. I am.

83 3 Q. Are you or not frmiliar with the water closets sold by Kupferle & Boisselier prior to June 25, 1877, and their attachments?

A. I am perfectly familiar with them.

4 Q. Please look at the water closet offered in evidence by the complainants in the said case of Charles F. Blake, &c., *et als. vs.* The McNab and Harlan Manufacturing Company, and marked Complainants' Exhibit "Kupferle & Boisselier," E. G. T., Ex'r., and state what it is, if you know.

A. It is one of the Kupferle & Boisselier water closets referred to in a previous question; and the supply cock on it, marked by a tag thereto attached "Complainants' Exhibit Kupferle & Boisselier Supply Cock," E. G. T., Ex'r, is one of the supply cocks sold with these closets.

This closet and supply cock are identical in construction and operation with the closets made and sold by Kupferle & Boisselier prior to June 25, 1877, and the same as those sold by the defendants herein prior to that time.

Right of objection and cross-examination reserved for counsel for defendants.

WM. S. CARR.

Subscribed and sworn to this 30th day of December, 1879.

E. G. THOMPSON, *Examiner.*

Cross-examination waived.

84 The following testimony in the cases of Keller & Blake *v.* Kirk, and Same *v.* Gibson *et al.*, was imported into the two cases of Blake, trustee, &c., *et al. v.* Boisselier *et al.*, by stipulation between counsel, and constituted part of the record on which the said cases of Blake, trustee, &c., *et al. v.* Boisselier *et al.* were argued at the circuit.

SAM'L S. BOYD,
D'f'ts' Sol'r.

85 *Keller & Blake vs. Kirk. Complainants' Exhibit C. E. G. T., Ex'r.*

(Reissue No. 978.)

THE UNITED STATES OF AMERICA.

To all to whom these letters patent shall come:

Whereas William S. Carr, of New York, New York, has alleged that he has invented new and useful improvements in water closets, (for which letters patent were issued to him, dated August 5th, 1856, which letters having been surrendered by him, the same have been cancelled and new letters ordered to issue to him on an amended specification,) which, he states, has not been known or used before his application, has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of fifteen dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are, therefore, to grant, according to law, to the said William S. Carr, his heirs, administrators, or assigns, for the term of fourteen years from the fifth day of August, one thousand eight hundred and fifty-six, the full and exclusive right and liberty of making constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said William S. Carr, in the schedule hereunto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

86 Given under my hand, at the city of Washington, this twelfth day of June, in the year of our Lord one thousand eight hundred and sixty, and of the Independence of the United States of America the eighty-fourth.

[SEAL.] JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.
PHILIP F. THOMAS,
Commissioner of Patents.

The shedule referred to in these letters patent and making part of the same:

To all to whom these presents shall come:

Be it known that I, William S. Carr, of the city, county, and State of New York, have invented, made and applied to use, certain new and useful improvements in water closets, and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making part of this specification, wherein—

Fig. 1 is an elevation of my closet as in place for use;

Fig. 2 is a plan of the cock and part of the plan of said closet; and

Fig. 3 is a vertical section of my cock made use of in letting the water into and shutting the same off from said closet. Similar marks of reference indicate the same parts in all the figures.

The nature of my said invention consists in a peculiar construction of cock, which is opened by the motion of the seat of the water closet, and allows but little water to run into the pan of the closet until the weight is removed from the seat, when the cock, gradually closing of itself, allows the water to run for a limited and regulated time, sufficient to wash out the basin. I also make use of a peculiar arrangement of levers and latch in connection with said cock, 87 to throw and empty the pan of said water closet, and I attach my cock directly to the closet, so that the same is always in its proper place, and a separate connection to the floor is avoided, and I pass leakage from the cock directly into the trunk of the closet.

In the drawing *a* is the trunk on the upper end of the soil pipe *b*, fitted with the pan *r*, on the shaft or spindle *q*, and *c* is the basin setting on to the trunk *a*. These parts, thus far, are to be of any usual or desired character; *d* is a pipe supplying water from any suitable head, and said pipe is attached to the coupling 1, that screws on to the body *e* of the cock, and *f* is a pipe and coupling passing water (when admitted as hereafter detailed) to the basin *c*, where it is to be fitted with the deflector as usual. The cock *e*, that supplies water to the basin, is constructed with a stem *h*, passing nearly or quite air-tight through the leather washer 4, beneath the cap *n*, and the lower end of said stem *h* is formed with a valve *g*, and with a cylindrical part 3, fitting water-tight, or nearly so; the opening of the washer 2, between the coupling 1 of the pipe *d* and cock *e*, and the sides of this cylinder 3 are formed with notches, or a groove *x*. It will now be seen that if the stem *h* be pressed down by the weight of the person acting on the seat *u*, rod *r*, and lever *p*, or by any other suitable means, the valve *g* will be forced away from the washer 2, and allow a dash of water to pass through the notch *x* sufficient to fill up the parts of the cock, and then that the cylinder 3, descending and filling the opening in the washer 2, will prevent, or nearly so, the passage of any more water into the closet; *i* is a spring around the stem *h*, which acts in aid of the pressure of the water on the valve *g* to close the same as soon as the force which opened the said valve is removed, but if this alone was used the concussion would be so great as to tend to break the parts, besides which sufficient water would not be supplied to the water closet to cleanse the same. I therefore make use of the following means, which cause said valve *g* to close slowly and in a regulated amount of time, thereby allowing the desired quantity of water to dash past the washer 2, at the time the notches or openings *x* are moving past the same. The upper
88 part of the cock *e* is formed as a cylinder *k*, in which is a disk
l, attached to the stem *k*, and a cup leather *m*, above the same; *n* is the cap of the cylinder *k*, which is formed with a short tube 8, passing up through a hollow projection 0, from the side of the trunk *a*, and secured thereto by a nut 6. At the time the valve *g* is pressed down, as before stated, the water dashes momentarily on to the cock and fills the same, passing the cup leather *m*, and filling the cylinder *k*, and upon the pressure on the stem *h* being removed, the cup leather expands by the slight rise of the stem, and would retain the valve *g* open were the cylinder *k* water-tight, and therefore the closing of said valve will be regulated according to the extent of leakage provided in said chamber *k*, and for this purpose the leakage at the washer 4, around the stem *h*, may in some cases be sufficient; but I propose to use a screw 9, entered through the cap *n*, with a head next the washer 4, and part of one side of the screw filed away so as to adjust the amount of leakage and regulate the time during which the water will run into the closet.

In order to drop the pan *v* of the water closet I fit the same on the shaft or spindle *q*, and provide the weight *s*, which is so adjusted as to be sufficient merely to replace the pan when empty beneath the basin, in the usual manner, and I make use of a peculiar looking arrangement for retaining the pan in a horizontal position under the basin e, or in an inclined position while being washed out, as shown in Figs. 1 and 2. The lever p is attached at one end at the fulcrum 7, and passes over the stem h and beneath the rod v, as before mentioned, and the end of this lever p is fitted so as to take on to a spring latch t, placed vertically at the end of the spindle q, and is thrown upwards by its spring when not otherwise acted on; and 12 is a hook on the end of the lever p to take a pin 11 on the arm of the weight s, acting as hereafter detailed.

The operation of the parts is as follows: The pan r, we will suppose, has been returned into its horizontal position while empty by the weight s, the latch t, in so doing, being forced down and then
springing up into its notch at the end of the lever p, prevents
89 the pan r from again assuming an inclined position in con-
quence of the water that runs into the rame to exclude smell, and which is sufficient to overpower the weight s, when the seat u is forced down by the weight of the person occupying the same; the lever p is also forced down by the rod v, and acts on the valve g, as before detailed, and its end forces down the spring latch t also, but the pan r cannot be dropped by this motion, as the latch t still sustains the same, but in forcing down this latch t, a beveled notch, 10, on the side thereof, has been brought down to the slide through which said latch passes, and the weight of water in the pan r, tending to rotate the spindle q, the aforesaid beveled notch is pressed against the slide of the latch; and when the person rises from the seat, the tendency of the weight of water in the pan still being to press the latch against the vertical part of the notch in the lever, and the beveled notch on to the slide of the latch, said latch is prevented from springing out, as the lever p rises by the action of the water and spring i; consequently said lever passes above the end of the latch t, and the pan drops emptying the same, and the latch, being now liberated, is projected by its spring. The pan r, in dropping, raises the weight s and pin 11, but the lever p, rising gradually, has not by this time attained sufficient elevation to allow the pin 11 to take the end of the lever p without lifting the same by passing under the inclined end, and then the lever p drops again, and its hook 12 takes said pin 11, and holds the pan r in its inclined position until the further closing of the valve g, and raising of the lever p disengages said pin and the weight s returns the pan r to place, where it is retained by the latch t and filled by the further flow of water as the cock finally closes, and the closet is again ready for use. I am thus enabled to obtain a reliable and self-acting water closet, and one that does not waste water while being used, but simply supplies sufficient to cleanse the basin after the user rises from the seat.

In cases where this cock is placed below the ground to avoid frost, the water in the pipe f will gradually waste past the cup leather m,
but if this be not sufficiently fast in its operation, a small hole
90 may be inserted in the cylinder e. I am well aware that
cocks have heretofore been fitted in such a manner as to avoid any sudden motion in either opening or closing; therefore I lay no

claim to so doing, but I am not aware of any valve having been fitted with a groove or notched cylinder 3, as herein set forth, whereby the water is allowed to pass the seat slightly on being forced down, and then the cylinder closes said seat almost or quite water-tight irrespective of the weight on the seat, which may vary the position of said cylinder, whereas in all other water closet cocks that I am acquainted with the flow of water has been shut off by a valve closing on to a seat; hence the weight might not be sufficient to compress a valve tightly to its seat, and the pressure being removed from my said valve it gradually closes, allowing the water to run for a limited time and then the said valve finally closes in the same direction as the flow of water, which also aids in making said valve tighter. I am also aware that a given amount of water leakage has been used to prevent a sudden motion in cocks, balances, meters, and a variety of other instruments; therefore I do not claim the same, but I am not aware that a cup leather has ever before been so fitted and applied with a valve as to allow the water to pass the said cup leather freely in the chamber in which it moves, and then act when the power is relieved from the valve upon the water in said chamber and gradually allow the valve to close.

Neither am I aware of any previous instance in which the valve or cock for supplying water has been connected directly to the pan or hopper, so that a separate connection to the floor is avoided, and the closet, cock, and parts to move said cock, are maintained in the correct relative position; and I am also enabled to convey leakage from said cock to the closet hopper in consequence of the cock being thus attached directly to the hopper.

What I claim as my invention and desire to secure by letters patent, is—

First. A cylindrical plunger or plug (3) substantially as specified,
acting to close the water passage (2) at the time the water
91 closet seat is depressed, irrespective of the weight on the seat
as distinguished from a valve which requires compression to
a given point before closing, as set forth.

Second. I claim the valve *g*, cylinder 3, and openings *x*, in combination with the seat *v*, and acting in the manner and for the purposes set forth.

Third. I claim in a valve for water closets a cup leather for controlling the motion of said valve in closing gradually, substantially as specified, said cup leather moving freely in one direction, and closing against the containing cylinder in the other direction, and the leakage of water in said cylinder allowing the movement of said cup leather, as set forth.

Fourth. I claim the lever *p*, acted on by the seat and simultaneously controlling the movements of the pan *r*, and valve or cock for admitting water, as specified.

Fifth. I claim the combination of the lever *p*, latch *t*, and valve spindle (*g*, *h*), as described, for regulating the movements of the pan *r*, as set forth.

Sixth. I claim the valve for admitting water to the closet in combination with the trunk or hopper, when said valve is connected directly to the said hopper, for the purposes and as set forth.

Seventh. I claim in a water closet in which the cock is attached to the hopper, a hollow arm (*o*) or opening into said hopper, substantially as specified, for conveying leakage from said cock into the hopper, as set forth.

In witness whereof I have hereunto set my signature, this eleventh day of February, 1860.

WILLIAM S. CARR.

Witnesses:
LEMUEL W. SERRELL.
THOS. GEO. HAROLD.

Certificate of Extension.

'92 Whereas, upon the petition of William S. Carr, of New York, for the extension of the patent granted to him August 5, 1856, and reissued June 12, 1860, for an "Improvement in Water Closets," the undersigned, in accordance with the act of Congress approved the 8th day of July, 1870, entitled "An act to revise, consolidate, and amend the statutes relating to patents and copyrights," did, on this twenty-third day of July, 1870, decide that said patent ought to be extended:

Now, therefore, I, Samuel S. Fisher, Commissioner of Patents, by virtue of the power vested in me by said act of Congress, do renew and extend the said patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, viz., from the fifth day of August, 1870, which certificate being duly entered of record in the Patent Office, the said patent has now the same effect in law as though the same had been originally granted for the term of twenty-one years.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this 23d day of July, 1870, and of the Independence of the United States the ninety-fifth.

[SEAL.] SAMUEL S. FISHER,
Commissioner.

(Here follows diagram, marked p. 92.)

93 (65.)

THE U. S. PATENT OFFICE.

[Vignette.]

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the drawing in the matter of reissue letters patent granted W. S. Carr, dated June 12th, 1860, No. 978, for water closets.

In testimony whereof, I, Ellis Spear, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this twenty-fifth day of January, in the year of our Lord one thou-

sand eight hundred and seventy-six, and of the Independence of the United States the one hundredth.

[SEAL.] ELLIS SPEAR,
Acting Commissioner.

94 *Complainant's Exhibit I. E. G. T., Ex'r.*

THE U. S. PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of the letters patent and certificate of extension granted Frederick H. Bartholomew, dated October 12th, 1858, No. 21734, for improved water closet.

In testimony whereof, I, Ellis Spear, acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this fifteenth day of September, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United States the one hundredth.

[No. 21734.] [SEAL.] ELLIS SPEAR,
Acting Commissioner.

THE UNITED STATES OF AMERICA.

To all to whom these letters patent shall come:

Whereas Frederick H. Bartholomew, of New York, N. Y., has alleged that he has invented a new and useful improved water closet, which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said water closet, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said water closet, and praying that a patent may be granted for that purpose:

95 These are therefore to grant, according to law, to the said Frederick H. Bartholomew, his heirs, administrators, or assigns, for the term of fourteen years from the twelfth day of October, one thousand eight hundred and fifty-eight, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said water closet, a description whereof is given in the words of the said Frederick H. Bartholomew in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made pat-
t, and the seal of the Patent Office has been hereunto affixed.
iven under my hand; at the city of Washington, this twelfth day
tober, in the year of our Lord one thousand eight hundred and
eight, and of the Independence of the United States of America
ighty-third.

[L. S.] JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

J. HOLT,
Commissioner of Patents.

The schedule referred to in these letters patent and making part of the same:

To all whom it may concern:

Be it known that I, Frederick H. Bartholomew, of the city, county, and State of New York, have invented an improvement in water closets, and I do hereby declare the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of invention consists in providing for water
96 closets a cistern or drip or leak-chamber, arranged upon the
top of or over the trunk of a closet, and placing a supply cock within or above said drip-box or cistern, so that any waste or leak or drip from the cock shall be conducted into the trunk, so as to insure the keeping of the floor dry. Also in providing a lever and cam for the purpose of operating a cock so arranged and an adjustable standard.

To enable others skilled in the manufacture of fixtures of this nature, I proceed to describe its construction and operation.

Figure 1 is a prospective view of a pan closet, showing my drip-box arranged upon the top plate of the closet, and the cock for supplying water to the same secured to the closet within the drip-box.

Figure 2 is a sectional view of my drip-box, lever, and cam and other parts.

Figure 3 shows the position of the lever H, and the parts connected with it on the under side of the cover or plate R of the closet.

The general form of the closet is such as is in common use. Upon the cover R, I cast a box inclosure or cistern E, about one inch high. (more or less), and broad enough to admit of placing the "A" cock (I use a valve cock) within the cistern and (where it is practicable) so as also to receive the drip that may escape from the joint at the arm of the basin called the "putty joint." I screw the cock into the cover of the closet and make a hole within the drip-box, or in the bottom of the cock, to admit the leak to fall into the trunk P, and not on to the floor. H is a lever suspended by screw-bolt D, and M is a cam upon the journal or shaft T, on which the pan is attached.

G is a semi-circular inverted flange or projection cast upon the under side of the cover, surrounding the end of the lever H, for the purpose of preventing the water from dashing through between the cover and the trunk, and to keep the lever from displacement. L is a lug or guide to hold one end of the axle of lever H. D is a
screw-bolt, upon the nut of which the lever H is suspended
97 by which the lever H is raised or depressed for regulating t
action upon the cock or valve-stem, and by which, in c
the cock should freeze up, the pan would not thereby be preven
from being tripped, the lever being dropped so low as not to
upon the stem of the cock when so required.

The standard or cup pillar heretofore used for closets have been attached to the plate of the closet in such a manner as that they would not admit of a lateral adjustment or shifting, as illustrated in perspective, Fig. 1.

I construct my standard W (into the top of which the cup is screwed), having an oblong opening or slot in the lower end or knee, through which the bolt X is inserted, having nut Y, by which it is secured to the closet plate for the purpose of admitting the standard to be shifted in a lateral direction. Instead of the slot or oblong opening in the bend or knee of the standard, the hole in the iron plate may be made of like oblong form, by which like purpose will be accomplished, as shown at Fig. 3.

Operation.—By lifting the knob of the closet the cam M depresses one end and raises the opposite end of cover H, and lifts the valve. By turning the bolt D the lever may be dropped so low as not to act upon the valve when the closet pan is discharged. Any leakage about the cock will drop into the closet, keeping the floor dry. Any desirable form or modification of supply cock may be used adapted to the purpose.

What I claim as my invention, and for which I desire letters patent, is—

First. I claim the use of a drip-box or leak-chamber arranged above the closet and below and around the supply cock, substantially as described.

Second. I claim arranging the supply cock upon the cover of the closet, whether the drip-box be employed or not, substantially as described.

Third. I claim the adjusting screw D, the cam M, and the lever H, or the equivalent thereof, arranged and employed for the purposes substantially as described.

98 Fourth. I also claim the laterally adjustable standard substantially as described and for the purpose set forth.

FREDERICK H. BARTHOLOMEW.

Witnesses:
WILLIAM HORNE.
J. HULEY.

Ex'd: A. R.

Whereas upon the petition of Sarah Bartholomew, of New York, New York, executrix of the estate of Frederick H. Bartholomew, deceased, for the extension of the patent granted to said Frederick H. Bartholomew October 12, 1858, for an "improved water closet," the undersigned, in accordance with the act of Congress approved the 8th day of July, 1870, entitled "An act to revise, consolidate, and amend the statutes relating to patents and copyrights," did, on this second day of October, 1872, decide that said patent ought to be extended:

Now, therefore, I, John M. Thacher, Acting Commissioner of Patents, by virtue of the power vested in me by said act of Congress, do renew and extend the said patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, viz., from the twelfth day of October, 1872, which certificate being duly entered of record in the Patent Office, the said patent has now the same effect in law as though the same had been originally granted for the term of twenty-one years. And it is hereby ordered that this certificate of extension be entered on a certified copy of said patent.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this second day of October, 1872, and of the Independence of the United States the ninety-seventh.

[L. S.] J. M. THACHER,
Acting Commissioner.

Ex'd: M. P. H.
Disclaimer filed Oct. 9, 1872.

(Here follows diagram, marked p. 99.)

100 *Keller & Blake vs. Kirk. Complainants' Exhibit K. E. G. T., Ex'r.*

THE U. S. PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office, of an assignment from William S. Carr to Charles M. Keller, and Charles F. Blake, recorded in liber M¹⁹, page 415.

In testimony whereof, I, Ellis Spear, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this fifth day of October, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United States the one hundredth.

[SEAL.] ELLIS SPEAR,
Acting Commissioner.

[Liber M¹⁹, page 415.]

Whereas letters patent of the United States were granted and issued to William S. Carr, of the city, county, and State of New York, bearing date respectively the 5th day of August, A. D. 1856, as reissued June 12th, 1870, and extended for the further term of seven years from and after the 5th day of June, 1870, numbered 978, May 4th, 1858, and numbered 20142, for which an application for extension is now pending before the United States Patent Office, April 7th, A. D. 1868, No. 76398 and August 4th, 1868, No. 80708;

And whereas the said Carr is desirous that said several letters patent should be held in trust by Charles M. Keller, and Charles F. Blake, of the said city, county, and State of New York, for their more efficient administration and management;

And whereas the said Keller and the said Blake are willing to accept the said trust:

101 Now, therefore, in consideration of the premises and of one dollar to the said Keller and the said Blake, each in hand

F. H. Bartholomew,

Water Closets.

No. 21,734. Patented Oct. 12. 1858.

Fig. 3.

Fig. 2.

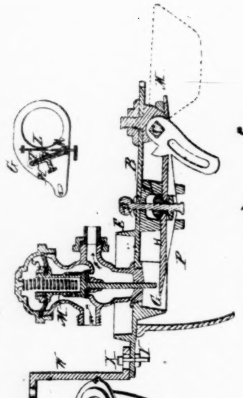
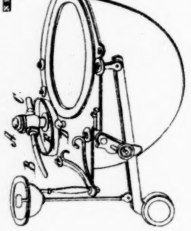


Fig. 1.



No. 189.
Thompson, trustee &c. et al
vs.
Brisselier et al
} p. 99

Inventor:
F H Bartholomew

paid, the receipt whereof is hereby acknowledged, and in further consideration of the promise and agreement of the said Keller and the said Blake, that they will faithfully keep and perform all the conditions and agreements of their declaration of trust of even date herewith, the said Carr does by these presents assign, sell, transfer, and set over to the said Keller and the said Blake, trustees, or their survivor, or his or their successor or successors, all his right, title, and interest in said letters patent, and in the inventions thereby secured, and in any reissues or extensions of said patents or any of them.

To have and to hold to the said Keller and Blake, trustees as aforesaid, or their survivor, and his or their successors or assigns, to the full end of the term or terms, for which they or each of them are or may be granted.

In testimony whereof I have hereunto set my hand and seal the 27th day of March, A. D. 1872.

WM. S. CARR. [L. S.]

In presence of—
HENRY HUBER.

Recorded Oct. 4, 1875. Ex'd, V. E. L.

Keller & Blake vs. Kirk. Complainants' Exhibit L. E. G. T., Ex'r.

THE U. S. PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an assignment recorded in liber K^{15}, page 233.

102 In testimony whereof, I, Ellis Spear, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this sixth day of October, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United States the one hundredth.

[SEAL.] ELLIS SPEAR,
Acting Commissioner.

Whereas letters patent of the United States were granted and issued to Frederick H. Bartholomew, of the city, county, and State of New York, bearing date respectively October 12th, 1858, and numbered 21734; June 20th, 1854, as reissued in two separate and distinct letters patent, numbered respectively 1071 and 1072, and extended for the further term of seven years from and after the 20th day of June, A. D. 1868, for improvements in water closets;

And whereas the said Frederick H. Bartholomew departed this life in said city and county on or about the 15th day of October, A. D. 1869, and by his last will and testament devised and bequeathed unto his wife, Sarah Bartolomew, all the above-recited letters patent and inventions thereby secured, which said last will and testament was duly admitted to probate on or about the 28th day of February, A. D. 1871, whereby all the right, title, and interest in and to the said several letters patent and inventions became, and is now, vested in the said Sarah Bartholomew;

And whereas the said Sarah Bartholomew is desirous that said patents should be held in trust by Charles M. Keller and Charles F. Blake, of the city, county, and State of New York, for their more efficient administration and management;

And whereas the said Keller and the said Blake are willing to accept said trust:

Now, therefore, in consideration of the premises, and of one dollar to the said Keller and the said Blake, each in hand paid, the receipt whereof is hereby acknowledged, and in further consideration
103 of the premises and agreement of the said Keller and the said Blake that they will faithfully keep and perform all the conditions and agreements of their declaration of trust of even date herewith, the said Sarah Bartholomew does by these presents assign, sell, transfer, and set over to the said Keller and the said Blake, trustees, or their survivor, or his or their successor or successors, all her right, title, and interest in and to said several letters patent and in the inventions thereby secured, and in any reissues or extensions of said patents, or any of them.

To have and to hold to the said Keller and Blake, trustees as aforesaid, or their survivor, or his or their successors or assigns, to the full end of the term or terms for which they or each of them are or may be granted.

In testimony whereof, I have hereunto set my hand and seal, this 27th day of March, A. D. 1872.

SARAH BARTHOLOMEW. [SEAL.]

In presence of—
FREDERICK M. BARTHOLOMEW.

[Recorded March 29, '72.]

Keller & Blake vs. *Kirk*. *Complainants' Exhibit N.* *E. G. T., Ex'r.*

THE U. S. PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an assignment recorded in liber V^{15}, page 359.

In testimony whereof, I Ellis, Spear, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this sixth day of October, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United State the one hundredth.

[SEAL.]

ELLIS SPEAR,
Acting Commissioner.

[V^{15}, page 359.]

104 Whereas Sarah Bartholomew, of the city, county, and State of New York, executrix of the last will and testament of Frederick H. Bartholomew, deceased, did, by his last will and

testament, become the sole owner and possessor, among other things, of the entire right, title, and interest in and to the letters patent of the United States, granted on the 12th day of October, 1858, to the said Frederick H. Bartholomew for improvements in water closets;

And whereas, by an assignment bearing date the 27th day of March, A. D. 1872, the said Sarah Bartholomew, executrix, did assign, sell, transfer, and set over unto us, Charles M. Keller and Charles F. Blake, in trust for the said Sarah Bartholomew, all her right, title, and interest in and to the said letters patent, granted as aforesaid, and in the invention thereby secured, and in any reissue or extension of said patent;

And whereas the said Sarah Bartholomew, executrix, is desirous of again becoming the sole owner and possessor of the extended term, if granted, of the said letters patent, and has paid to us the sum of one dollar, the receipt of which is hereby acknowledged:

Now therefore, we, the said Keller and the said Blake, hereby reassign, sell, transfer, and set over unto the said Sarah Bartholomew all the rights so assessed to us, as trustees, by the said assignment, bearing date the 27th day of March, 1872, to have and to hold the same to the full end of the term or terms for which the said letters patent are or may be granted.

In testimony whereof, we have hereunto set our hands and seals, this 1st day of July, A. D. 1872.

CHAS. M. KELLER, *Trustee.* [SEAL.]
CHARLES F. BLAKE, *Trustee.* [SEAL.]

In presence of—
A. J. DeLACY.

Recorded Oct. 8th, 1872. Ex.: J. A. W.

105 *Keller & Blake* vs. *Kirk.* *Complainants' Exhibit O.* *E. G. T., Ex'r.*

THE U. S. PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an assignment recorded in liber D^{16}, page 309.

In testimony whereof, I, Ellis Spear, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this sixth day of October, in the year of our Lord one thousand eight hundred and seventy-five, and of the Independence of the United States the one hundredth. [SEAL.]

[D 16, p. 309.]

Whereas letters patent of the United States were granted and issued to Frederick H. Bartholomew of the city, county, and State of New York, bearing date October 12th, 1858, and numbered 21734, for improved water closet;

And whereas the said Frederick H. Bartholomew departed this life in said city and county on or about the 15th day of October, A. D. 1869, and by his last will and testament did devise and bequeath unto his wife, Sarah Bartholomew, the above-recited letters patent and invention secured thereby, which said last will and testament was duly admitted to probate on or about the 28th day of February, A. D. 1871, whereby all the right, title, and interest in and to the said letters patent and invention became vested in the said Sarah Bartholomew;

And whereas on the 2d day of October, A. D. 1872, the said letters patent were extended or renewed for the further term of seven years, from and after the 12th day of October, A. D. 1872;

106 And whereas the said Sarah Bartholomew is desirous that said patent should be held in trust by Charles M. Keller and Charles F. Blake, of the city, county, and State of New York, for its more efficient administration and management, and the said Keller and Blake are willing to accept said trust:

Now, therefore, in consideration of the premises, and of one dollar to the said Keller and Blake each in hand paid, the receipt whereof is hereby acknowledged, and in further consideration of the premises and agreement of the said Keller and the said Blake that they will faithfully keep and perform all the conditions and agreements of their declaration of trust of even date herewith, the said Sarah Bartholomew does by these presents, assign, sell, transfer, and set over to the said Keller and the said Blake, or their survivors, or his or their successor or successors, all her right, title, and interest in and to said letters patent and invention thereby secured, to have and to hold to the said Keller and Blake, trustees as aforesaid, or their successors or assigns, or their survivor, to the full end of the term for which the said letters patent are granted and extended.

In testimony whereof, I have hereunto set my hand and seal this 14th day of October, A. D. 1872.

SARAH BARTHOLOMEW. [SEAL.]

In presence of—
J. H. BARTHOLOMEW.

[Recorded Nov. 22, 1872. Ex'd: A. E. B.]

Keller & Blake vs. *Kirk. Complainants' Exhibits P & Q. E. G. T., Ex'r.*

In the Matter of the Estate of FREDERICK H. BARTHOLOMEW, dec'd.

Be it remembered that heretofore, to wit, on the thirtieth day of October, in the year one thousand eight hundred and sixty-nine, Sarah Bartholomew, Frederick M. Bartholomew, James H. Bartholomew, and Alexander Bartholomew are the widow and heirs-at-law interested and named in the last will and testament of 107 Frederick H. Bartholomew, late of the county of New York, deceased, appeared in open court, before Gideon J. Tucker, surrogate of the county of New York, and made application to have the said last will and testament and codicils thereto which relates to both real and personal estate, proved, and on such application the surrogate did ascertain by satisfactory evidence that said applicants were the widow, only heirs, and next of kin of said deceased, and all of full age, and on that day no one appearing to oppose the probate of said will, such proceedings were thereupon had afterwards that said surrogate took the proof of said will hereinafter set forth, and upon this third day of November, in the year one thousand eight hundred and sixty-nine, he adjudged said will and codicils to be a valid will of real and personal estate and the proofs thereof to be sufficient, which said last will and testament and proofs are as follows, that is to say:

Know all men by these presents that I, Frederick H. Bartholomew, of the city, county, and State of New York, being of sound mind and memory, do make and publish this my last will and testament, hereby revoking all former wills by me at any time heretofore made:

[U. S. Int. Rev. Stamp. $74.00. Cancelled.]

ARTICLE 1. I hereby constitute and appoint my wife, Sarah Bartholomew, and my brother, James R. Bartholomew, executrix and executor of this my last will and testament.

ARTICLE 2. I give, devise, and bequeath to my wife, Sarah Bartholomew, to be received by her in lieu of dower, the dwelling-house and lot now occupied by me and known as No. 43 West 37th street, in the city of New York, being the same premises conveyed to me by William Gray and Harriet, his wife, by deed dated the 28th day of January, 1865, and recorded in the office of the register of the city and county of New York in liber 919 of Conveyances, page
108 469, together with all my household furniture, books, works of art, housekeeping provisions and other consumable stores which at my decease shall be in and about the said dwelling-house. And I also, give, devise, and bequeath to the said Sarah the house and lot lately known as No. 147 East 48th street, in said city, now occupied by J. H. DeWitt, being the same premises conveyed to me by Robert Ennever and Jane, his wife, by deed dated the 13th day of June, 1860, and recorded in the office of said register, in liber 818 of Conveyances, page 380. It is my desire and my intention to give to my children amounts as nearly equal as possible without selling or converting my estate into money. Therefore:

ARTICLE 3. I give, devise, and bequeath to my son, Frederick M. Bartholomew, my house and lot known as No. 115 Crosby street, in said city, said lot extending through to Marian street, and including the shop heretofore used and occupied by me, and known as No. 84 Marian street, being the same premises conveyed to me by Sarah Watson, by her deed dated the 22d day of May, 1855, and recorded in the office of said register, in liber 692 of Conveyances, page 337, subject to a mortgage of five thousand dollars, the payment of which the said Frederick M. shall assume if he accepts this devise. I also give and bequeath to him, the said Frederick M., the capital, the same being ten thousand dollars, which I contributed to the firm of F. H. Bartholomew & Co., composed of F. H. Bartholomew, Alexander Waldron, and F. M. Bartholomew, and which sum is now due to me from said firm.

ARTICLE 4. I give, devise, and bequeath to my son James Henry Bartholomew, the three-story dwelling house and lot formerly

known as No. 145 East 48th street, in said city, and now occupied by Mr. Wasshing, being the same premises conveyed to me by Alanson L. Sears and Elizabeth H., his wife, by deed dated the 13th day of June, 1860, and recorded in the office of said register, in liber 818 of Conveyances, page 377. And it being my de-
109 sire that my last-mentioned son shall have said house and lot free from any encumbrances, I hereby request and direct my said executors to pay off the mortgage upon the same of $4,000, now held by the Columbia Insurance Company, and pay off and discharge any other encumbrances that may be upon said lot at the time of my decease; I also give and bequeath to the said James Henry the sum of ten thousand dollars which I loaned to him and which he contributed as capital to the firm of E. F. Murray & Co., of which he is a member, and which sum is now due to me from the said James Henry. I also give to the said James Henry my walking sticks or canes, gold pencil and pen and spectacles.

ARTICLE 5. I give to my son, Alexander Bartholomew, my diamond pin.

ARTICLE 6. I give to my said executors my dwelling house and lot known as No. 214 East 50th street, in said city, now occupied by the Rev. Ray Palmer, and being the same premises conveyed to me by Wm. Henry Sparks, and Hannah Sparks, his wife, by deed dated the first day of October, 1860, recorded in the office of said register, in liber 822 of Conveyances, page 598, in trust, to collect the rents and profits therefrom, and, after deducting the taxes, and assessments, and cost of repairs therefrom, to pay from the remainder to my said son, Alexander, such sums as they (my said executors) shall deem to be for his advantage, until he shall have arrived at the age of twenty-five years, and upon his arriving at said age, to convey the house and lot in fee to him, the said Alexander, and pay over to him all that remains of said rents and profits. If, however, the said Alexander shall die before arriving at said age, leaving children surviving him, then my said executors shall convey said last-mentioned house and lot in fee, and pay over what remains of said rents and profits to said children, and if he, the said Alexander, should die before arriving at said age without issue, then my said executors shall convey said last-mentioned house and lot in fee, and pay what remains of said rents and profits, to my wife, Sarah Bartholomew.

110 ARTICLE 7. I give and bequeath to my eldest son, living at my death, my gold watch and chain.

ARTICLE 8. And from the residue and remainder of my estate I direct, authorize, and empower my said executors to sell and dispose of, and convert into money, so much as will pay all my debts and liabilities, (except the aforesaid bond and mortgage on the house and lot in Crosby and Marian streets,) and the following annuities, which debts, legacies, and annuities I direct my executors to pay from the proceeds of said sales as follows, to wit:

ITEM 1. To pay all my just debts and liabilities, and all mortgages, liens, and encumbrances upon the real estate hereinbefore devised, except the aforesaid bond and mortgage upon the house and lot in Crosby and Marian streets.

Item 2. To pay to my cousin, Harriet A. Weatherley, the sum of five hundred dollars.

Item 3. To pay to my cousin, Maria Riley, the sum of five hundred dollars.

Item 4. To pay to William Howe, my trustworthy foreman, the sum of one thousand dollars.

Item 5. To pay to Leonard Wassing, Jeremiah Tuaney, and Jeremiah Haley, my respected and faithful workmen, the sum of five hundred dollars each.

Item 6. I direct my said executors to invest from the proceeds of said sales and to keep securely invested in United States stocks and bonds the sum of five thousand dollars, and to pay the interest or income thereof over to my wife, Sarah Bartholomew, during her life or until the marriage of Fanny G. McPherson, and upon the occurrence of either event, to wit, upon the death of said Sarah, or upon the marriage of the said Fanny G., to pay the said principal sum of five thousand dollars over to the said Fanny G.: Provided, however, if the said Fanny G. shall die, unmarried, before
111 the said Sarah, then my said executors shall pay said principal sum over to her, the said Sarah Bartholomew. It is my desire that the said Fanny G. shall continue to reside with, and be considered and treated as a member of my family until her marriage, or the death of my widow.

Article 9. I give, devise, and bequeath the rest and residue of my estate, real and personal, of every name and nature whatsoever, including all my rights secured by my letters patent, and all rights of action for infringing said rights, which have or may accrue to my beloved wife, Sarah Bartholomew; and I direct the said Sarah Bartholomew to pay to my aunt, Bertha D. Arbuckle, in equal quarterly payments, the sum of five hundred dollars annually, during her natural life, and the last-mentioned legacy is hereby charged with such. And I request the said Sarah to secure by proper "will and testament," or by other means, the descent of so much of the property herein devised to her, as shall remain at her death, to my heirs-at-law.

In testimony whereof, I have hereunto set my hand and seal, and published and declared this to be my last will and testament, in the presence of the witnesses named below, this twenty-seventh day of May, in the year of our Lord one thousand eight hundred and sixty-eight.

FREDERICK H. BARTHOLOMEW. [L. S.]

Signed, sealed, published and declared by the said Frederick H. Bartholomew, as and for his last will and testament, in the presence of us, and each of us, all of us being present at the same time, who, at his request, and in his presence, and in the presence of each of us, have hereunto subscribed our names as witnesses—

TIMOTHY D. FELTON,
Residence, 68 West 23d Street, New York City.
JOSEPH H. G. McGLONE,
Residence, 129 Chrystie Street, New York City.

112 Whereas, on the twenty-seventh day of May, 1868, I, Frederick H. Bartholomew, executed my last will and testament, now, therefore, I declare this to be a codicil to my said last will and testament, and desire my executors, and all concerned, to consider this codicil as a part of my last will and testament.

Whereas, in my said last will of 27th May, 1868, I gave and bequeathed to my dear wife, Sarah, the house and lot heretofore known as No. 147 East 48th street, in the city of New York, being the premises now occupied by Jacob H. DeWitt, the deed recorded in register's office, liber 818, page 380 of Conveyances; and whereas, in said will and testament, I gave and bequeathed to my son, Frederick M. Bartholomew, my house and lot known as No. 115 Crosby street, in said city, together with the shop No. 84 Marian street, being the rear front of said lot, and also the sum of ten thousand dollars, being the capital contributed by myself to the copartnership firm of F. H. Bartholomew & Co

Now, therefore, I declare that I have reconsidered the same, and I do hereby revoke and annul the said bequests to my said son and my dear wife, and in place and instead thereof I give and bequeath to my said son, Frederick M. Bartholomew, the said house and lot known heretofore as No. 147 East Forty-eighth street, New York, being the house adjoining the one bequeathed in this will by me to my son, James Henry Bartholomew; and I direct that my executors do assume and pay the mortgage of $4,000 on said house and lot now held by the Columbia Insurance Co., N. Y., so that my son, Frederick M., shall receive the title free of mortgage lien thereon. I also give to my said son, Frederick M., the sum of ten thousand ($10,000) dollars instead of the capital in F. H. B. & Co. I also hereby give and bequeath to my dear wife, Sarah, for and during her natural life, my said house and lot known as No. 115 Crosby street, this city, together with the shop building No. 84 Marian street, being in rear of said lot, now subject to the mortgage of five thousand dollars held by the Columbia Insurance Co.; and I direct that said $5,000 (now held by Jacob Travis and not the Columbia Insurance Co.) be paid 113 off by my executorsfrom assets of my estate. I also give to my wife ten thousand dollars, capital contributed by me to the firm F. H. Bartholomew & Co. I also direct that my executor, James R. Bartholomew, and also my executrix, my dear wife, a widow, be paid, and that they receive from my estate 5 per cent. between them, that is, two and one-half per cent. each, on the entire value of my estate, which they are to receive for their services as executor and executrix. And for the purpose of remunerating my brother for any trouble he may be to in prosecuting the claims of my estate against infringers of patents, or for sales and licenses which he shall make, I direct that he be paid the additional sum and percentage of five per cent. on such amount received by my estate (besides expense incurred by him as my executor on such sales and licenses).

In testimony whereof, I have hereunto set my hand and seal, and published and declared this to be my last will and testament-codicil, in the presence of the witnesses named below, this twenty-third day of October, in the year of our Lord one thousand eight hundred and sixty-eight.

FREDERICK H. BARTHOLOMEW. [L. S.]

Signed, sealed, published, and declared by the said Frederick H. Bartholomew as and for his last will and testament, in the presence of us, and of each of us, all of us being present at the same time, who, at his request, and in his presence, and in the presence of each of, have hereunto subscribed our names as witnesses—

MARY T. SPARKS,
130 *W. 43d St., New York.*
JANE ANN McCLURE,
130 *W. 43d St., New York.*

Whereas, in my last will and testament, dated 27th May, 1868, I directed my executors to pay to Fanny G. McPherson, after the decease of my wife, or upon the event of the marriage of said Fanny, the sum of five thousand dollars; and whereas it now appears to me that in the event of the decease of said Fanny, she leaving no issue nor will, her father and his family would inherit her
114 property, which is not agreeable to my wishes, now, I direct by this, my codicil (No. 2), that my executors, instead of paying said five thousand dollars to said Fanny, as is provided in said will, namely, upon the decease of my wife, or upon said Fanny's marriage, that my executors retain said five thousand in their own hands as invested, paying said Fanny the income until she shall have a child or children to whom her property shall lawfully descend as her descendant heir, and not to her father or his family, in which case I direct my executors to pay said principal sum of five thousand dollars over to said Fanny, and not otherwise.

In testimony whereof, I have hereunto set my hand and seal, and published and declared this to be my last will and testament-codicil, in the presence of the witnesses named below, on this twenty-third day of December, in the year of our Lord one thousand eight hundred and sixty-eight.

F. H. BARTHOLOMEW.

Signed, sealed, and published and declared by the said F. H. Bartholomew as and for his last will and testament, in the presence of us, and each of us, all of us being present at the same time, who, at his request, and in his presence, and in the presence of each of us, have hereunto subscribed our names as witnesses—

MARY T. SPARKS,
130 *W. 43d St.*
JANE ANN McCLURE,
130 *W. 43d St.*

Whereas, in my will heretofore made, I have given to my son, Alexander, my house and lot in Fiftieth St., and as it appears to be less than given to my two sons, Frederick and James, now, I therefore direct my executors to invest $5,000 in Government funds at 6 per cent., registered in his name, and pay the same to him. This sum is in addition to the Fiftieth St. house—five thousand at par bonds.

In testimony whereof, I have hereunto set my hand and
115 seal, and published and declared this to be my last will and
testament-codicil, in the presence of the witnesses named below, this ninth day of October, in the year of our Lord one thousand eight hundred and sixty-nine.

F. H. BARTHOLOMEW. [L. S.]

Signed, sealed, published, and declared by the said Frederick H. Bartholomew as and for his last will and testament, in the presence of us and each of us, all of us being present at the same time, who, at his request, and in his presence, and in the presence of each of us, have hereunto subscribed our names as witnesses—

THOS. S. HASTINGS,
9 E. 45th St., New York.
FANNIE G. McPHERSON,
43 W. 37th St.

Surrogate's Court, County of New York.

In the Matter of Proving the last Will and Testament of FREDERICK H. BARTHOLOMEW, as a Will of Real and Personal Estate, deceased.

Examination of Witnesses Sworn and Examined in the above-entitled Matter.

COUNTY OF NEW YORK, *to wit:*

Timothy D. Pelton, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased; I knew the above-named decedent for fifteen years before his death; the subscription of the name of said decedent to the instrument now shown to
me and offered for probate as his last will and testament,
116 and bearing date the 27th day of May, in the year one thousand
eight hundred and sixty-eight, was made by the decedent at the city of New York, in the presence of myself and Joseph H. G. McGlone, the other subscribing witness; at the time of such subscription the said decedent declared the said instrument so subscribed by him to be his last will and testament, and I thereupon signed my name as a witness at the end of said instrument at the request of said decedent and in his presence. The said decedent at the time of so executing said instrument was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint, or in any respect incompetent to devise real estate; I also saw said Joseph H. G. McGlone, the other attesting witness, sign his name as a witness at the end of said will, and know that he did so at the request of said decedent and in his presence.

TIMOTHY D. PELTON.

Sworn, this 30th day of October, 1869, before me.
GIDEON J. TUCKER, *Surrogate.*

COUNTY OF NEW YORK, *to wit:*

Joseph H. G. McGlone, of said county, being duly sworn as a witness in the above entitled matter, and examined on behalf of the applicant to prove said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased; I knew the above named decedent for two years before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as his last will and testament, and bearing date the twenty-seventh day of May, in the year one thousand eight hundred and sixty-eight, was made by the decedent at the city of New York, in the presence of myself and Timothy D. Pelton, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be his last will
and testament, and I thereupon signed my name as a witness
117 at the end of said instrument at the request of said decedent
and in his presence.

The said decedent at the time of so executing said instrument was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint or in any respect incompetent to devise real estate. I also saw said Timothy D. Pelton, the other attesting witness, sign his name as a witness at the end of said will, and know that he did so at the request of said decedent, and in his presence.

JOSEPH H. G. McGLONE.

Sworn this 30th day of Oct., 1869, before me.
GIDEON J. TUCKER, *Surrogate.*

COUNTY OF NEW YORK, *to wit:*

Mary T. Sparks, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the above-named decedent for twenty years and upwards before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the twenty-third day of October, in the year one thousand eight hundred and sixty-eight, was made by the decedent at the city of New York, in the presence of myself and Jane Ann McClure, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament; and I thereupon signed my name as a witness at the end of said instrument at the request of said decedent and in his presence.

The said decedent, at the time of so executing said instrument, was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint or in any respect incompetent to devise real estate. I also saw said Jane Ann McClure, the other attesting witness, sign her name as a witness at the end of said codicil to said will, and know that she did so at the request of said decedent and in his presence. 118

MARY T. SPARKS.

Sworn this 30th day of October, 1869, before me.

GIDEON J. TUCKER, *Surrogate.*

COUNTY OF NEW YORK, *to wit:*

Jane Ann McClure, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the above-named decedent for twenty years and upwards before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the twenty-third day of October, in the year one thousand eight hundred and sixty-eight, was made by the decedent at the city of New York, in the presence of myself and Mary T. Sparks, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament; and I thereupon signed my name as a witness at the end of said instrument, at the request of said decedent, and in his presence.

The said decedent, at the time of so executing said instrument, was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint, or in any respect incompetent to devise real estate. I also saw said Mary T. Sparks, the other attesting witness, sign her name as a witness at the end of said codicil to said will, and know that she did so at the request of said decedent, and in his presence.

JANE ANN McCLURE.

Sworn this 30th day of October, 1869, before me.

GIDEON J. TUCKER, *Surrogate.*

119 COUNTY OF NEW YORK, *to wit:*

Fannie McPherson, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove a codicil to said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the above-named decedent for ten years and upwards before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the ninth day of October, in the year one thousand eight hundred and sixty-nine, was made by the decedent at the city of New York, in the presence of myself and Thomas S. Hastings, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament, and I thereupon signed my name as a witness at the end of said instrument, at the request of said decedent, and in his presence.

The said decedent, at the time of so executing said instrument, was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint, or in any respect incompetent to devise real estate. I also saw said Thomas S. Hastings, the other attesting witness, sign his name as a witness at the end of said codicil to said will, and know that he did so at the request of said decedent, and in his presence.

FANNIE G. McPHERSON.

Sworn this 30th day of Oct., 1869, before me.

GIDEON J. TUCKER, *Surrogate.*

COUNTY OF NEW YORK, *to wit:*

Mary T. Sparks, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove a codicil to said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the above-named decedent for twenty years and upwards before his death. 120 The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the ninth day of October, in the year one thousand eight hundred and sixty-nine, was made by the decedent at the city of New York, in the presence of myself and Jane Ann McClure, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament, and I thereupon signed my name as a witness at the end of said instrument, at the request of said decedent and in his presence.

The said decedent, at the time of so executing said instrument, was upwards of the age of twenty-one years, and of sound mind, memory, and understanding, and not under any restraint, or in any respect incompetent to devise real estate. I also saw said Jane Ann McClure, the other attesting witness, sign her name as a witness at the end of the codicil to said will, and know that she did so at the request of said decedent and in his presence.

MARY T. SPARKS.

Sworn this 30th day of October, 1869, before me.

GIDEON J. TUCKER, *Surrogate.*

COUNTY OF NEW YORK, *to wit:*

Jane Ann McClure, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the above-named decedent for twenty years and upwards before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the ninth day of October, in the year one thousand eight hundred and sixty-nine, was made by the decedent at the city of New York, in the presence of myself and Mary T. Sparks, 121 the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament; and I thereupon signed my name as a witness at the end of said instrument, at the request of said decedent and in his presence. The said decedent, at the time of so executing said instrument was upwards of the age of twenty-one years, and of sound mind, memory and understanding, and not under any restraint, or in any respect incompetent to devise real estate; I also saw said Mary T. Sparks, the other attesting witness, sign her name as witness at the end of said codicil to said will, and know that she did so at the request of said decedent, and in his presence.

JANE ANN McCLURE.

Sworn, this 30th day of October, 1869, before me.

GIDEON J. TUCKER,
Surrogate.

County of New York, *to wit:*

Thomas S. Hastings, of said county, being duly sworn as a witness in the above-entitled matter, and examined on behalf of the applicant to prove a codicil to said will, says: I was well acquainted with Frederick H. Bartholomew, now deceased. I knew the abovenamed decedent for ten years before his death. The subscription of the name of said decedent to the instrument now shown to me and offered for probate as a codicil to his last will and testament, and bearing date the ninth day of October, in the year one thousand eight hundred and sixty-nine, was made by the decedent at the city of New York, in the presence of myself and Fannie G. McPherson, the other subscribing witness. At the time of such subscription the said decedent declared the said instrument so subscribed by him to be a codicil to his last will and testament; and I thereupon signed my name as a witness at the end of said instrument, at the request of said decedent and in his presence.

The said decedent, at the time of so executing said instru- 122 ment was upwards of the age of twenty-one years, and of sound mind, memory and understanding, and not under any restrainst, or any respect incompetent to devise real estate. I also saw said Fannie G. McPherson, the other attesting witness, sign her name as a witness at the end of said codicil to said will, and know that she did so at the request of said decedent, and in his presence.

THOS. S. HASTINGS.

Sworn this 30th day of October, 1869, before me.

GIDEON J. TUCKER,
Surrogate.

County of New York, *ss:*

Recorded the preceding last will and testament, and codicils thereto, of Frederick H. Bartholomew, deceased, as a will of real and personal estate, together with the proofs and examinations taken and had in the court of the surrogate of the county of New York, relating to the said last will and testament and codicils thereto, which said record is hereby signed and certified by me, pursuant to the provisions of the Revised Statutes, the third day of November, in the year of our Lord one thousand eight hundred and sixty-nine.

August 25, 1870.

ROBERT C. HUTCHINGS,
Surrogate.

The people of the State of New York to all to whom these presents shall come or may concern, send Greeting:

Know ye that at the county of New York, on the 3d day of November, in the year of our Lord one thousand eight hundred and sixty-nine, before Gideon J. Tucker, Esq., surrogate of our said county, the last will and testament of Frederick H. Bartholomew, deceased, was proved, and is now approved and allowed by us; and the said Frederick H. Bartholomew being, at or immediately previous to his death, an inhabitant of the county of New York, by means
123 whereof the proving and registering the said will, and the
granting administration of all and singular the goods, chattels, and credits of the said testator, and also the auditing, allowing, and final discharging the account thereof, doth belong unto us, the administration of all and singular the goods, chattels, and credits of the said deceased, and any way concerning his will, is granted unto Sarah Bartholomew, of the city of New York, an executrix in the said will named, she being first duly sworn faithfully and honestly to discharge the duties of such executrix.

In testimony whereof we have caused the seal of office of our said surrogate to be hereunto affixed.

Witness Gideon J. Tucker, Esq., surrogate of our said county, at the city of New York, the 3d day of November, in the year of our Lord one thousand eight hundred and sixty-nine.

[L. S.] GIDEON J. TUCKER,
Surrogate.

(Copy.)

STATE AND COUNTY OF NEW YORK, } *ss:*
Surrogate's Office, }

I, Morgan A. Dayton, Jr., clerk to the surrogate's court of said county, do hereby certify that I have compared the foregoing copy of the last will and testament and codicils thereto of Frederick H. Bartholomew, deceased, together with the probate thereof, and the letters testamentary granted thereon, with the original record thereof, now remaining in this office, and have found the same to be a correct transcript therefrom and of the whole of such original record.

In testimony whereof, I have hereunto set my hand and affixed the seal of office of said surrogate, this twenty-second day of October, in the year of our Lord one thousand eight hundred and seventy-five.

[SEAL] MORGAN A. DAYTON, JR.,
Clerk to the Surrogate's Court.

124 STATE AND COUNTY OF NEW YORK, } *ss.:*
Surrogate's Office, }

I, Robert C. Hutchings, surrogate of said county, and presiding magistrate of the surrogate's court, do hereby certify that the foregoing exemplification of the last will and testament and codicils thereto of Frederick H. Bartholomew, deceased, together with the probate thereof, and the letters testamentary granted thereon, is authenticated in due form, and by the proper officer.

In testimony whereof, I have hereunto set my hand and affixed the seal of the surrogate's court, this twenty-second day of October, in the year of our Lord one thousand eight hundred and seventy-five.

[SEAL.] ROBERT C. HUTCHINGS, *Surrogate.*

125 United States Circuit Court, Southern District of Ohio.

CHARLES M. KELLER and CHARLES F. BLAKE
vs.
THOMAS GIBSON, JAMES ALLISAN, CALVIN ZELL, and ROBERT CARLISLE.
} In Equity.

Proofs on the part of the complainants for final hearing, taken before Edward G. Thompson, one of the standing examiners of the court, under and pursuant to the 67th rule in equity as amended, and pursuant to notice hereto attached.

NEW YORK, *October* 13, 1873.

Met pursuant to notice given on the part of the complainant.

Present: Messrs. Keller & Blake, of counsel for complainants, and Messrs. Fisher & Duncan, of counsel for defendants.

WILLIAM S. CARR, being produced as a witness on behalf of complainants, and having first been duly sworn, in answer to interrogatories propounded by counsel for complainants, says as follows:

1 Q. What is your name, age, residence, and occupation?

A. William S. Carr; age 43; residence, New York city, and occupation, manufacturer.

2 Q. Are you the patentee of the Carr inventions set up in the bill of complaint in this cause?

A. Yes, sir.

3 Q. Please look at the closet, Exhibit A, in this cause, and state who made it.

A. Thomas Gibson & Co., of Cincinnati, the defendants.

126 4 Q. Have you examined said closet and do you understand its mode of operation, both as to the pan and as to the mechanism governing the flow of water?

A. Yes, sir.

5 Q. State whether or not, to your knowledge, the defendants made and sold closets constructed alike and having the same mode of operation as Exhibit A, prior to the filing of the bill in this cause.

A. Yes; I do know that they made them.

Mr. Duncan, counsel for defendants, admits that defendants constructed closets like Exhibit A, prior to the signing of the bill in this suit.

(Signed) WILLIAM S. CARR.

Subscribed and sworn to, this 13th October, A. D. 1873.
E. G. THOMPSON, *Examiner*.

Mr. Blake, counsel for complainants, offers in evidence reissued letters patent of the United States, granted to William S. Carr for improvement in water closets No. 978, being reissue of letters patent granted to him, dated August 5th, 1856, which is marked Complainant's Exhibit B, E. G. T., Examiner, &c.

127 Henry B. Renwick, being produced as a witness on behalf of complainants, and having been duly sworn, in answer to interrogatories propounded by counsel for complainants, says as follows:

1 Q. What is your name, age, residence, and profession?

A. Henry B. Renwick; age, 56; residence in the city of New York, and I am by profession a civil and mechanical engineer, and during the last twenty years I have been frequently examined as expert in the circuit court of the United States for various circuits in suits in which patents were in question.

Adjourned to Tuesday, Oct. 14th, 1873, 10 a. m.

NEW YORK, *Oct.* 14, 1873.

Adjourned to Monday, Oct. 20, 1873.

128 NEW YORK, *Monday, October* 20, 1873.

Present: Counsel as before.

The further examination of Mr. RENWICK was resumed.

4 Q. Have you read and do you understand the letters patent of the United States reissue No. 978, granted to William S. Carr, Complainant's Exhibit B in this case?

A. I have several times examined the reissued letters patent named in the question, and believe I understand the contents thereof and the inventions specified therein.

5 Q. Please examine the water-closet of Defendants' Exhibit A, and compare it with said letters patent in regard to the invention described therein, and referred to in the third claim thereof, and state whether or not the construction and mode of operation of said exhibit is substantially the same as is described in said reissue No. 978, and referred to in the third claim thereof, giving your reasons for any opinion you may express.

A. I have frequently examined the water-closet of Defendants' Exhibit A, and believe it contains the inventions described in reissue No. 978, and referred to in the third claim thereof; the invention referred to in the third claim of said patent is in fact a combination of a valve for a water-closet, with a variable chamber, and with a cup leather in such manner that the valve is caused to close slowly by the operation of the cup leather as a tight packing, preventing the passage of water, and is permitted to open rapidly on account of the cup leather acting as a valve which opens to permit the passage of water. In the variable chamber described in the patent granted to Bartholomew, before referred to, there is a tight-packed diaphragm and a small valve, the valve being used either to permit the entrance of the water into the variable chamber, or allow of its egress from the variable chamber; in the construction described in the Carr patent, now in question, the cup leather acts both as a valve and packing; in this Carr patent the cavity 129 of the variable chamber is shown in the upper part of figure 3; it is provided with a piston, with a cup leather shown at *m*, and with a small aperture alongside of the screw 9, which aperture permits the gradual escape of water from the chamber; the valve is shown at *g*. All parts of the cavity shown in figure 3 are filled with water when the contrivance is ready for operation, and the valve is held upon its seat by the spiral spring *i*. When the valve stem *h* is depressed the valve is opened rapidly, owing to the fact that the cup leather then acts as a valve, and permits water to pass it freely. When the force which depressed the valve stem is removed, then the spring *i* tries to shut the valve, and finally does close it, but shuts it very slowly, owing to the fact that the cup leather now acts as a tight packing, being forced by the pressure of the water against the wall of the veriable chamber; therefore the water can only escape from the variable chamber slowly through the small orifice alongside of the screw 9, and the shutting of the valve is controlled and retarded, so that it cannot move faster than the escape through this small aperture permits it to move. The effect produced by this construction is the same as the effect produced in the Bartholomew patent, before referred to, namely, to insure a considerable flow of water into the basin of the closet.

In the defendant's closet, Complainant's Exhibit A, there is a brass casting, before referred to, attached to the side of the receiver, substantially as shown in the Carr patent. This brass casting of the defendant's has at its lower part a cavity, whose walls partially bound the variable chamber. This cavity is a cup-shaped piece of brass, screwed to the bottom of the casting. A cylindrical brass plunger enters this cavity, and the upper end of it is formed into a valve. This brass plunger is packed to the top of the cavity by a cup leather, which is secured between the upper part of the brass cup and an internal flange on the brass casting. The stem of the plunger and valve is surrounded by a coiled brass spring, which always tends to lift the plunger and shut the valve. The 130 plunger has also a small nick or groove cut in its periphery, and extending from the top to the bottom of the plunger.

When this contrivance is ready for operation, all parts of the cavity in the brass casting, including the variable chamber, are filled with water, and the valve is held on its seat by the spiral spring, the plunger then being in its hightest position.

When it is desired to open the valve, force is applied to depress the valve stem, this force compresses the spring, depresses the plunger, and opens the valve quickly, owing to the fact that the water can escape rapidly from the variable chamber, such rapid escape being due to the operation of the cup leather, which now ceases to hug the plunger and acts as a valve, permitting the water to escape freely from the variable chamber. When the force which was applied to depress the stern and open the valve is removed, then the spring strives to shut the valve and elevate the plunger, and as soon as it commences to elevate the plunger, the pressure of water causes the cup leather to hug the plunger tightly, so that it ceases to act as a valve, and becomes a tight packing. As soon as this occurs, water can only enter the chamber through the small groove in the periphery of the plunger, and the valve can shut no faster than this small flow of water permits it to shut. The mode of operation of this contrivance is therefore precisely the same as that described in the patent of Carr. It has a variable chamber, the same as Carr's; it has a cup leather, which at one time acts as a packing and at the other is a valve, which is the same as Carr's; it has a small orifice, which permits the passage of water when the valve is closing, which is the same as Carr's; and it has a plunger, which is the equivalent of Carr's piston, and which was a well-known substitute for a piston in pumps prior to the date of Carr's patent.

Adjourned to December 1st, 1873.

131 New York, *December* 1, 1873, 12 *m.*

Present: Mr. Blake, of counsel with complainants, and Mr. Duncan, of counsel with defendants, and the witness, H. B. Renwick, being produced for cross-examination, and, being cross-examined by counsel for defendants, says:

132 12 X Q. What do you understand to be the correct definition of the term "cup leather," as employed in mechanics?

A. Circular disc of leather, usually thick leather, so moulded that its edges turn up, and the contrivance, as a whole, looks something like a saucer. Cup leathers, so far as I know, have always a hole in the center, and sometimes the edges of the hole are turned up instead of the edges of the periphery. In whatever form it is applied it is a leather which is caused to pack against the bore of a cylinder on the outside of a cylindrical plunger when the pressure of the fluid tends to bend the leather in such direction as would convert it into a plane surface; if the construction of the parts allowed it to take that shape.

13 X Q. In your last answer you state that "cup leathers have always a hole in the center;" what are the various uses of these central holes?

A. Sometime to let a plunger piston rod pass through; sometimes to admit of the passage of the contrivance which secures the cup leather to the piston.

14 X Q. When the opening in the center of the so-called cup leather is used for the purpose of permittting the passage of a plunger, is not such construction simply a device for transferring the packing from the surface of the plunger to the interior surface of the cylinder or chamber in which such plunger moves?

A. I do not exactly understand the question. The opening in the cup leather is not for the purpose of transferring the packing from the surface of the plunger to the surface of the cylinder. When a plunger is used it is generally as long as the cylinder, or nearly so—sometimes longer—and the surface of the plunger passes over the packing, which stands at rest. When a piston is used its length is a very small portion of that of the cylinder, and the packing moves and packs against the interior bore of the cyl-
133 inder. The distinction between a plunger and a piston is,
that the former slides over packing usually confined by a stuffing box, while a piston carries its packing with it, and the packing slides over the interior bore of the cylinder.

15 X Q. Is not the primary idea of the term cup leather, as employed in hydraulics, that it is a leather so constructed and shaped as to be capable of sustaining or arresting the flow of a fluid which rests upon or is forced against its concave side?

A. I don't know which was the first way of using a cup leather. Probably its first way was the use which you have described, and it is so used now when applied to a piston. In whichever way it is applied it acts as a packing by reason of the pressure of the fluid tending to flatten the leather.

17 X Q. Is it not true that the cup leather in the Carr patent 978, when it acts as a packing, entirely prevents, or is intended entirely to prevent, the flow of the water in one direction?

A. It is.

134 18 X Q. Is it not a consequence of this construction of the
cup leather that the leakage from the variable chamber, instead of taking place by the side of the cup-leather and into the main body of the cock, must be passed out in some other direction?

A. No, it is not; that is a consequence of the position of the leakage orifice in the top of the cylinder. If a small longitudinal groove were cut in the edge of Carr's cylinder, then the apparatus would act just as it now does, and the leakage would pass by the side of the cup leather, the cup leather acting in the same way in both cases, viz., to prevent all leakage when moving in one direction, except that which takes place through the leakage orifice.

19 X Q. Then, if I understand you, the cup leather in the construction shown in reissue 978 is intended to pack the piston tightly, and entirely to prevent the flow of water in one direction, while if the construction should be modified, as indicated by you in your last answer, the cup leather would no longer retain this function, but would permit the water to pass in both directions.

A. In the reissue 978 the cup leather is not intended to prevent all flow of water out of the chamber when the piston is moving in one direction. If it did so, the apparatus would not work. There is a small aperture provided, out of which the water can flow when the cup leather and piston is moving in that direction. The cup leather does not prevent the flow of water out of this aperture The cup leather would perform precisely the same functions, whether the leakage hole was a groove in the walls of the cylinder or an orifice at the top. In both cases, when moving in one direction, it would prevent all escape of water except through the leakage orifice.

HENRY B. RENWICK.

Subscribed and sworn to, the 1st day of December, 1873.

E. G. THOMPSON, *Examiner.*

Adjourned by consent of counsel to new notice.

135 United States Circuit Court in and for the Eastern District of Pennsylvania.

CHARLES M. KELLER and CHARLES F. BLAKE
vs.
GEORGE R. KIRK.
No. 72, April Sess., 1874, in Equity.

And now, Friday, June 4th, 1875, on motion of S. S. Hollingsworth, Esq., for complainants, the court appoint E. G. Thompson, Esq., examiner to take testimony in this cause in New York, due notice of time and place of taking said testimony to be given the defendants.

(True copy.)

[L. S.] SAMUEL BELL,
Clerk Cir. C't U. S., E. D. of Pa.

United States Circuit Court, Eastern District of Pennsylvania. In Equity.

CHARLES M. KELLER and CHARLES F. BLAKE
vs.
GEORGE R. KIRK.

Proofs for final hearing in the above-entitled cause, on the part of complainant, taken before Edward G. Thompson, one of the 136 standing examiners of the court in and for the southern district of New York, and special examiner herein, duly appointed by the order of this court, under and pursuant to the 67th rule in equity, as amended.

NEW YORK, *June* 10, 1875.

Met pursuant to notice.

Present: Mr. Charles F. Blake, of counsel with complainants.

Counsel for defendant not present, although duly notified, as appears by copy of notice and proof of service hereto annexed.

Counsel for complainants offers in evidence certified copy of the order of this court appointing Edward G. Thompson as examiner herein, and notice of the taking of testimony on the part of complainants, with proof of service of the same on defendants' solicitor, which is hereto annexed, marked Complainants' Exhibit A, E. G. T., S. Ex'r.

Also certified copy of the bill of complaint and amendment of the same in this cause, marked Complainants' Ex. B, E. G. T., S. Ex'r.

Also certified office copy of the reissued letters patent to William S. Carr, dated June 12, 1860, No. 978, and the certificate of extension thereof, dated August 5, 1870, marked Complainants' Ex. C, E. G. T., S. Ex'r.

137 Also certified office copy of letters patent, granted to Frederick H. Bartholomew, dated October 12, 1858, No. 21734, together with the certificate of extension thereof, dated October 2, 1872, marked Complainants' Ex. I, E. G. T., S. E.

Also certified office copy of an assignment by said Wm. S. Carr to Charles M. Keller and Charles F. Blake, trustees, dated March 27, 1872, marked Complainants' Ex. K, E. G. T., S. E.

Also certified office copy of an assignment by Sarah Bartholomew to Charles M. Keller and Charles F. Blake, as trustees, dated March 27, 1872, marked Complainants' Ex. L, E. G. T., S. E.

Also a water-closet with its mechanism, marked Complainants' Exhibit M, E. G. T., S. E.

Also certified office copy of an assignment from Charles M. Keller and Charles F. Blake to Sarah Bartholomew, dated July 1st, 1872, marked Complainant's Ex. N, E. G. T., S. E.

Also certified office copy of an assignment from Sarah Bartholomew to Charles M. Keller and Charles F. Blake, dated October 14th, 1872, marked Complainants' Ex. O, E. G. T., S. E.

Also certified copy of the last will and testament, and the codicils thereto, of Frederick H. Bartholomew, marked Complainants' Ex. P, E. G. T., S. E.

Also certified copy of proof of probate of said last will and testamont, with the codicils thereto, of Frederick H. Bartholomew, and the qualification as executrix thereunder of said Sarah Bartholomew, and of the letters testamentary issued thereunder to said Sarah Bartholomew, marked Complainants' Ex. Q, E. G. T., S. E.

138 Phillips Abbott, being produced as a witness on the part of the complainants, and being first duly sworn, in answer to interrogatories propounded by Mr. Blake, deposes and says as follows:

I am 25 years of age. I reside at 84 Willow street, Brooklyn, N. Y. I am, and have been since November, 1872, managing clerk in the late firm of Keller & Blake, composed of Charles M. Keller and Charles F. Blake. That the said Charles M. Keller, one of the said firm of Keller & Blake, died on the 14th day of October, 1874; that since the death of said Keller I have been, and still am, the managing clerk of Charles F. Blake, the surviving member of said firm.

PHILLIPS ABBOTT.

Subscribed and sworn to before me, this 10th day of June, 1875.

E. G. THOMPSON,
Special Examiner.

Examination adjourned to June 12, 1875, at 12 m.

NEW YORK, *June* 12, 1875.

Examination adjourned till June 14, 1875, at 12 m.

NEW YORK, *June* 14, 1875—12 m.

Adjourned till June 23, 1875, at 11 a. m.

NEW YORK, *June* 23, 1875—11 a. m.

Adjourned till July 2, at 11 a. m.

NEW YORK, *July* 2, 1875—11 a. m.

Adjourned till July 12, at 11 a. m.

139 NEW YORK, *July* 12, 1875—11 a. m.

Adjourned till July 21, 1875, at 11 a. m.

NEW YORK, *July* 21, 1875—11 a. m.

Adjourned till July 30, 1875, at 11 a. m.

NEW YORK, *July* 30, 1875—11 a. m.

Adjourned till August 9, 1875, at 11 a. m.

NEW YORK, *Aug.* 9, 1875—11 a. m.

Adjourned till Aug. 18, 1875, at 11 a. m.

NEW YORK, *Aug.* 18, 1875—11 a. m.

Adjourned till Aug. 27, 1875, at 2 p. m.

NEW YORK, *Aug.* 27, '75—2 p. m.

Met pursuant to adjournment.

Present: Charles F. Blake, Esq., of counsel for complainants.

WILLIAM S. CARR, having been produced as a witness on the part of the complainants, and being first duly sworn, in answer to interrogatories propounded by Mr. BLAKE, says:

1 Q. What is your name, age, residence, and occupation?

A. William S. Carr; I am 45 years of age; I reside in New York city; I am a manufacturer of plumbers' materials.

140 2 Q. What acquaintance, if any, have you in the plumbers' furnishing business, and are you familiar with the various water closets sold in the markets of the United States?

A. Yes, sir; I have a large acquaintance in the plumbers' furnishing business and know of every water-closet manufacturer in the United States.

3 Q. Are you, or not, acquainted with the water closets made and sold by Mr. George R. Kirk, of Philadelphia, Pennsylvania?

A. I know that he makes and sells water closets.

4 Q. Please look at Exhibit "M" and state whether or not he makes and sells water closets substantially like it.

A. Yes, sir.

5 Q. Please state how long he has made and sold such closets.

A. I think some two or three years; quite two, or maybe three.

6 Q. Have you ever had any conversation with him regarding these closets?

A. Yes, sir.

7 Q. Did he ever say anything regarding their infringing the patents of Bartholomew and Carr, recited in the bill?

A. I think it was in the spring of 1873—there was a meeting of the National Board of Manufacturers of Plumbers' Materials—that he admitted to me that he was manufacturing Smith's closets, as represented by Exhibit M; I think he was immediately afterwards notified by Messrs. Keller & Blake of their infringement.

WM. S. CARR.

Sworn and subscribed to before me, this 27th day of August, 1875.

E. G. THOMPSON, *Examiner.*

Joseph P. Kennedy, a witness produced on the part of the complainants, being first duly sworn, in answer to interrogatories propounded by Mr. Blake, says:

1 Q. What is your name, age, residence, and occupation?

141 A. Joseph P. Kennedy; I am 34 years of age; I reside in New York city; I am a clerk and salesman; I am in the plumbers' furnishing business.

2 Q. Please look at Exhibit "M" and state whether or not you know that it is the closet sold in the market as the "Smith closet."

A. Yes.

JOSEPH P. KENNEDY.

Sworn and subscribed to before me, this 27th day of August, 1875.

E. G. THOMPSON, *Examiner.*

Adjourned till August 31, 1875, at 11 a. m.

E. G. T., *S. E.*

New York, *August* 31, 1875—11 a. m.

Met pursuant to adjournment.

Present: Mr. Charles F. Blake, of counsel with complainant.

Henry B. Renwick, being produced as a witness on the part of the complainant, being first duly sworn, in answer to interrogatories propounded by Mr. Blake, says:

1 Q. What is your name, age, residence, and profession?

A. Henry B. Renwick; I am 57 years of age; I reside in the city of New York, and I am by profession a civil and mechanical engineer, and during the last twenty years I have been frequently examined as expert in the circuit courts of the United States for various circuits in suits in which patents were in question.

142 4 Q. Have you read and do you understand the letters patent of the United States, reissue No. 978, granted to William S. Carr, Complainant's Exhibit C in this case?

A. I have several times examined the reissue letters patent named in the question, and believe I understand the contents thereof and the inventions specified therein.

5 Q. Please examine the defendant's water closet, Exhibit M, and compare it with said reissue letters patent in regard to the invention described therein and referred to in the third claim thereof, and state whether or not the construction and mode of operation of said exhibit is substantially the same as is described in said reissue No. 978, and referred to in the third claim thereof, giving your reasons for any opinion you may express.

A. I have frequently examined the water closet of defendant, Exhibit M, and believe it contains the inventions described in reissue No. 978, and referred to in the third claim thereof; the invention referred to in the third claim of said patent is, in fact, a combination of a valve for a water closet, with a variable chamber and with a cup leather in such manner that the valve is caused to close slowly by the operation of the cup leather as a tight packing, preventing the passage of water, and is permitted to open rapidly, on account of the cup leather acting as a valve, which opens to permit the passage of water. In the variable chamber described in the patent granted to Bartholomew, before referred to, there is a tight-packed diaphragm and small valve, the valve being used either to permit the entrance of the water into the chamber or allow of its egress from the variable chamber.

In the construction described in the Carr patent now in question the cup leather acts both as valve and packing. In this Carr patent the cavity of the variable chamber is shown in the upper part of figure 3. It is provided with a piston with a cup leather, shown at *m*, and with a small aperture alongside of the screw 9, which aperture permits the gradual escape of water from the chamber.
143 The valve is shown at *g*. All parts of the cavity shown in
figure 3 are filled with water when the contrivance is ready for operation, and the valve is held upon its seat by the spiral spring *i*. When the valve-stem *h* is depressed the valve is opened rapidly, owing to the fact that the cup leather then acts as a valve and permits water to pass it freely. When the force which depressed the valve stem is removed, then the spring *i* has to shut the valve, and finally does close it, but shuts it very slowly, owing to the fact that the cup leather now acts as a tight packing, being forced by the pressure of the water against the wall of the variable chamber; therefore the water can only escape from the variable chamber slowly through the small orifice alongside of the screw 9, and the shutting of the valve is controlled and retarded so that it cannot move faster than the escape through this small aperture permits it to move. The effect produced by this construction is the same as the effect produced in the Bartholomew patent before referred to, namely, to insure a considerable flow of water into the basin of the closet.

In the complainant's Exhibit M, defendant's water closet, there is a brass casting, before referred to, mounted in the drip-pan attached to the side of the receiver; this brass casting of the defendant has screwed on one end of a cup-shaped piece of brass, whose walls partially bound the variable chamber. A cylindrical brass plunger enters this cavity, and a valve is attached to, and moves with this trap-plunger, which is packed to the open end of the cup by a cup-leather, which is secured between a flange in the cup and the end of the brass casting. The stem which unites the plunger and the valve is surrounded by a brass-coiled spring, as before stated, which always tends to shove the plunger into the chamber and shut the valve. This plunger has also, as before stated, a small nick or groove cut in its periphery and extending from end to end of the plunger.

When this contrivance is ready for operation, all parts of the cavity in the brass castings, and also the variable chamber, are filled with water, the valve being held on its seat by the spring and the plunger then being shoved home into the variable chamber.

144 When it is desired to open the valve, force is applied through the pan-lever, to shove the plunger and valve endwise. This force compresses the spring, shoves the plunger out of the chamber, and opens the valve quickly, owing to the fact that water can enter the variable chamber rapidly, such rapid entrance being due to the operation of the cup-leather, which then ceases to hug the plunger, and acts as a valve, permitting water to enter freely into the variable chamber. When the force which was applied to open the valve is removed, then the spring strives to shut the valve and force the plunger into the variable chamber. The pressure of water then causes the cup-leather to hug the plunger tightly, so that the former ceases to act as a valve, and becomes a tight packing. As soon as this occurs, water can only get out of the chamber through the small nick or groove in the periphery of the plunger, and the valve can shut no faster than this small flow of water permits it to shut. The mode of operation of this contrivance is, therefore, substantially the same as that described in the patent of Carr; both have a variable chamber, both have a cup-leather which at one time acts as a packing and at another as a valve, and both have a small orifice which permits a small flow of water when the valve is closing; and Exhibit M has a plunger which is the equivalent of Carr's piston, and which was a well-known substitute for a piston, to my knowledge, long prior to the the date of Carr's patent.

145 10 Q. Have you read, and do you understand, the letters patent granted to F. H. Bartholomew, October 12th, 1858, No. 21734, Complainants' Ex. I, in this case?

A. I have several times examined the patent named in the question, and believe I understand the contents thereof, and the various inventions specified in the claims thereof.

11 Q. Please examine defendants' water closet (Complainants' Ex. M), and compare it with the said patent, No. 21734, in regard to the invention described therein and referred to in the 1st claim thereof, and state whether or not the construction of said exhibit is substantially the same as is described in said patent and referred to in the 1st claim thereof, giving your reasons for any opinion you may express?

146 A. I have examined the defendants' water closet (Complainants' Ex. M) in reference to its containing the invention described in the first claim of the patent named in the question, and believe it contains that invention. This claim, as I understand it, is to a combination of a drip-box, a supply cock, and the receiver, container, or trunk of the closet; the drip-box being arranged below and around the supply-cock so—in the words of the patent—"that any waste or leak or drip from the cock shall be conducted into the trunk so as to insure the keeping of the floor dry." As the drip-box is arranged below and around the cock it must receive the leaks from the joints thereof; and, as it has a passage leading from it in the receiver or trunk, the water which falls into the drip-box must pass through the receiver into the soil-pipe, and the floor will therefore, be dry, which is the object sought for by the invention specified in the first claim of the patent. The patent describes the drip-box as arranged above the closet, and it is represented in that situation in the drawings; the patent states that "any desirable form or modification of supply-cock may be used."

Exhibit M has a receiver or trunk, being the iron vessel with a spherical bulge on it before referred to; also a supply-cock, being the brass casting with its valve before referred to; (a casting containing a valve and spherical chamber, being shown in Figure 2 of the drawings of the patent, the valve being the supply-cock referred to in the claim); and also a drip-box bolted on to the side of the trunk or receiver, and arranged below and around the supply-cock.

Exhibit M also has a small orifice in the trunk or receiver located adjacenct to the drip-box, and so arranged with reference to it that any drip or leak received into the box shall flow through the orifice into the receiver or trunk, and thence into the soil pipe.

The supply-cock of Exhibit M, the drip-box, the orifice from the drip-box leading into the receiver, the receiver itself, and the arrangement of the drip-box below and around the supply-cock, are all the same as described in the Bartholomew patent No. 21734; but in Exhibit M the drip-box is arranged on one side of the re-
147 ceiver, and near the top thereof, and not upon the top thereof, as described and shown in the Bartholomew patent; but I consider this change of position as formal, and not substantial, because precisely the same result is attained in both cases, and because this result is attained in both cases by means of the same operation of the same parts, acting in combination with each other, and thereupon conclude that Exhibit M contains the invention referred to in the first claim of No. 21734, although the claim does contain the words "leak chamber arranged above the closet."

HENRY B. RENWICK.

Subscribed and sworn to, this 31st day of August, 1875.

E. G. THOMPSON,
Special Examiner.

Complainants here close their *prima facie* case.

Mr. Milward show the trunk of a water closet, or a drip-box combined with it, so that the water from the drip-box runs into the trunk, and nothing in those depositions therefore is descriptive of the combination referred to, the first claim of Bartholomew, No. 21734.

Adjourned to October 28, 1875, 11 a. m., owing to the incomplete state of the defendants' exhibit.

New York, *Oct.* 28, 1875—11 a. m.

Met pursuant to adjournment.

Present: Counsel as before.

Adjourned to Oct. 29, '75, 11 a. m., owing to the continued incomplete condition of the defendants' exhibits.

153 New York, *Oct.* 29, 1875—11 a. m.

Met pursuant to adjournment.

Present: Counsel as before.

Adjourned to Oct. 30, '75, 11 a. m., for the same reason as before.

New York, *Oct.* 30, 1875—11 a. m.

Met pursuant to adjournment.

Present: Counsel as before.

Adjourned to November 1st, 1875, 11 a. m., for the same reason as before.

New York, *Nov.* 1, 1875—11 a. m.

Met pursuant to adjournment.

Present: Counsel as before.

The following stipulation was made, and the following certificate of the examiner annexed to the record, and then an adjournment was taken to November 6, 1875, 11 a. m.:

It is stipulated and agreed by and between counsel for respective parties that the complainants shall have to the 13th of November instant to close their rebutting testimony; that they may take said rebutting testimony in the absence of defendants' counsel, except of witnesses other than the expert, Renwick, and as to such
154 other witnesses there shall be three days' notice given, reserving to defendants' counsel any objections they may desire to enter upon the record, and also the right of cross-examination of complainants' witnesses so as aforesaid examined for a reasonable time.

It is further stipulated and agreed that this cause, having been set down for a hearing for the 4th of November instant, at Pittsburg, Penn., may be continued till such day after the 18th instant as will suit the convenience of the court, and the court will consent to hear it.

Dated New York, November 1, 1875.

CHARLES F. BLAKE,
Complainants' Solicitor.
HATCH & PARKINSON,
For Respondents.

United States Circuit Court, Eastern District of Pennsylvania. In Equity.

CHARLES M. KELLER and CHARLES F. BLAKE
vs.
GEORGE R. KIRK.

I, Edward G. Thompson, the special examiner herein, do hereby certify to the court that on the 15th day of October, 1875, the complainants sent notice to the defendants that they would proceed to take their rebutting testimony under the stipulations existing between counsel, before me on the 21st day of October. That on said day I attended for the purpose of taking such proofs; that there was an adjournment had at request of the defendants till October 25th, 1875; that on October 25th there was a further adjournment till October 26th, owing to the non-arrival of defendants' exhibits;
155 that on the 26th some portion of said exhibits were received, of which the following were incomplete, in this:

The defendants' Exhibit English Patent to Hulme had no drawing attached to it. Also, there was no drawing attached to defendants' Exhibit Kirkwood's Design, nor was Kirkwood's exhibit drawing furnished, although referred to in the defendants' proofs. Also, Guinier's patents numbers 1 and 2, with plates, drawings, and translations were not furnished, nor were the model exhibits known as Smith Valve Nos. 1 and 2.

Owing to this the examination on the 26th was necessarily brief, and was then adjourned till October 28th, to await the arrival of the missing exhibits and the completion of those which had arrived in an incomplete state.

That on the 28th of October the defendants' exhibits were still incomplete, and the examination only proceeded for a short time. That on the 29th October the same difficulties occurred, and the complainants could not close their examination on that day.

The exhibits were incomplete on the 30th October, and to-day, November 1st, the drawing of Exhibit English Patent to Hulme is still wanting, and the complainants are still unable to close their testimony.

That thereupon respective counsel made the stipulation, a copy of which is hereto annexed, and the further examination was adjourned till November 6th.

E. G. THOMPSON,
Special Examiner.

156 KELLER & BLAKE *v.* GIBSON.

SAME *v.* KIRK.

NEW YORK, *November* 18, 1875—11 a. m.

Met pursuant to notice and consent.

Present: Mr. C. F. Blake for complainants, and Mr. Parkinson for defendants.

And the witness, HENRY B. RENWICK, being further examined by Mr. BLAKE, says:

19 Q. Please look at the Defendant's Exhibit, "Kirkup Closet," and assume that its cock, with its supply and discharge pipe, was placed below the circular recess on the top of the closet, and say whether in your opinion it would, if constructed, contain the devices described and claimed in the first claim of the Bartholomew patent No. 21734. If you have been informed how said exhibit was constructed when complete, please so state, and make use of it in your answer?

(Objected to, so much as refers to the information received by the witness as incompetent.)

A. I have frequently examined the Exhibit "Kirkup Closet," named in the question. I understand the suppositions made in the question as to the manner in which the cock is attached in that exhibit when it was a complete water closet, and I have also
157 been informed how the cock was attached and worked in closets having such a casting as the Exhibit "Kirkup Closet."

My information is that a cock or valve chamber of some kind or other was attached beneath what has been termed the drip box in the Exhibit "Kirkup Closet," in substantially the same way that the valve casting, or the casting which contains the valve is attached in the Respondent's Exhibit "Kirkwood Drawing," with the neck of this casting projecting up through the large hole in centre of the so-called drip box of the Exhibit "Kirkup Closet," and that such valve, when thus attached, was worked by a secondary lever mounted on top of the iron casting, as it is in the Exhibit "Kirkwood Drawing," with the exception that the secondary lever in the Exhibit "Kirkup Closet" worked in a vertical plane at right angles to that in which the pan lever worked. The Exhibit "Kirkup Closet" is of itself pretty good proof that this information as to the construction of the closet as a whole is correct. In the first place in that exhibit the so-called drip cup is a great deal too small in diameter to underlie the joints where the inflow and delivery pipes are connected to the cock in any kind of cock that I know of, and therefore it bears on its face the proof that it was not intended for a drip cup.

In the second place the Exhibit "Kirkup Closet" has a bulge or projection from the upper face of the casting which is of no use except to convert into two ears to support the pivot of the secondary lever, as shown in the exhibit "Kirkwood Drawing."

In the third place there are ribs on the casting, strengthening it, and leading to this bulge, which serve no useful purpose that I can conceive of, except to support firmly the pivot of a secondary lever when supported between ears formed of such bulge.

Now the Bartholomew patent, No. 21734, as a whole, shows clearly that this drip chamber is intended to receive the leak from the joints at the points where the pipes B and G of Fig. 1 are screwed to the valve chamber. He says that it may also (not must also), when practicable, receive the escape from the joint called the putty joint.

158 As I understand this Bartholomew patent, the drip-box

must be big enough to receive the drip or leak from the two joints above spoken of, and must be below those joints in order to catch the water that drips down from them.

Now in the Exhibit "Kirkup Closet," in the first place the so-called drip-box is not large enough to receive such leakage even if the valve-chamber were placed on top of the casting, and in the second place, in the Exhibit "Kirkup Closet," as a whole, as I am informed and believe, the valve casting and the joints thereof, with the inlet and outlet pipe, lie below this so-called drip-box instead of above it, so that the whole leak from these joints would fall upon the floor—the very difficulty that Bartholomew intended to remedy being thus left remaining in this "Kirkup Closet" as a whole.

It is true that in the "Kirkup Closet," as a whole, any leakage around the valve-stem would fall into this drip-box and be conducted into the receiver or container of the closet, but this is not the drip that Bartholomew intended to catch in the drip-box, because inspection of his description and drawings will show that any leakage from his valve-stem went directly to the receiver or container without entering the drip-box, this being the case owing to the fact that his valve-stem projects into the receiver of the closet.

Under the supposition named in the question I believe that the "Kirkup Closet," as a whole, did not contain the invention recited in the first claim of Bartholomew's Patent, No. 21734, for the reasons already given, and for the further reason that it is evident that a drip-cup must be below the valve casting to act as Bartholomew's does. And that his patent distinctly states that the drip-box is below and around the supply-cock.

20 Q. Please look at Exhibit "Scotch Closet," and say whether, in your opinion, it contains the devices described and claimed in the first claim of the Bartholomew Patent No. 21734? In answering this question please explain what you understand the drawing Exhibit "Scotch Closet" to represent?

A. I understand the Exhibit "Scotch Closet" to represent a pan closet with a valve and valve-chamber, to which 159 latter the ordinary outlet and inlet pipes, marked A, B, are coupled in the usual way. The valve is of peculiar construction, so far as its stem is concerned, as the latter does not extend through the valve-chamber or casting. In consequence of this construction the valve cannot be opened by applying power to the stem, and is opened by a cam, marked C and H on the drawing. This cam is, as I understand it, formed on the continuation of the pan axle, and the cam lies inside of the valve-chamber, the pan axle becoming in reality the valve-stem, so far as it operates to open the valve. Under this construction there would be a leakage around the pan axle from the interior, not the exterior, of the valve-chamber.

This leakage would run directly into the container, and the arrangement is similar in some respects to that of Bartholomew's valve stem, in so far that this pan axle, which becomes the valve stem, enters into the cavity of the receiver. This leakage, however, is not the leakage that Bartholomew's drip box receives and conducts away, and a mere inspection of the Exhibit "Scotch Closet" shows that it has no drip box of any kind, no drip box to receive the leakage from the inlet and outlet pipes as Bartholomew's does, and that leakage from such couplings would fall upon the floor, the closet, as a whole, thus doing the very thing that it was the object of Bartholomew's invention to prevent its doing.

This Exhibit "Scotch Closet" does not contain the combination described and contained in the first claim of the Bartholomew Patent, No. 21734.

Adjourned to Nov. 19, at 11 a. m.

160 NEW YORK, *Nov.* 19, 1875—11 a. m.

Met pursuant to adjournment.
Present: Counsel as before.

And the witness, HENRY B. RENWICK, being cross-examined by Mr. PARKINSON, says:

21 X Q. How long has the cup-leather piston been one of the forms of pistons well known to mechanics familiar with hydraulic machinery?

A. The cup-leather piston, so far as I know, is always provided with two cup-leathers standing in opposite direction, so as to pack it when going in both directions, and I think I have known of it for twenty years at least, probably thirty.

22 X Q. How long have you known of a cup-leather attached to a rod, so as to act as a piston when moving in one direction, and to collapse when moving in the other, to be used in connection with a tube, pipe, or cylindrical chamber?

A. I understand that this question assumes the cup-leather to be fastened to a piston-rod to act as a piston, without any solid piston. I have never seen a cup-leather so used, and I do not think it could be so used practically. I have seen, more than thirty years ago, when in the service of the U. S. Engineer Corps, a single-acting lifting pump with a square barrel and with a hollow pyramid made of four pieces of sole leather, sewed together at the angles of the pyramid and attached to the pump-rod, and with four leather straps fastened to the pump-rod and to the edges of the base of the pyramid, so as to prevent the pyramid from being turned inside out and becoming useless when it acted as a piston. This latter pyramid acted as a piston on the up-stroke, and collapsed on the down-stroke, so that it passed through the pump-barrel containing the water.

23 X Q. How long has a piston with cup-leather packing similar to that shown in Carr Reissue 978—that is to say, so arranged as to
pack against the wall of the cylindrical chamber or tube
161 when moving in one direction, and to collapse to allow the
water to pass when moving in the other—been one of the forms
of piston familiar to mechanics skilled in hydraulic machinery?

A. As I said before, I do not know of a piston with only one cup-leather which would act as a valve, such as is shown in the Carr Reissue as an old device prior to Carr. A common lifting pump has a bucket with a valve in it, not a piston packed with a substitute for a cup-leather, namely, a strip of leather tied around the upper end of the bucket and projecting beyond it. This strip would leave the sides of the pump-barrel on the down-stroke of the bucket, but the main body of the water was passed from one side of the piston to the other; in fact, practically, the whole of it passed through the valve in the centre of the bucket.

24 X Q. Then, so far as you know, Carr was the first to apply the piston with a single cup leather packing, so arranged that it would operate as a piston only in one direction while allowing the water to pass when it moved in the other?

A. Yes.

25 X Q. It operates precisely as either one of the two cup leathers in the old piston you have described by itself, in the absence of the other?

A. Yes; either of the two old cup leathers would so act if the other were taken away.

26 X Q. This double cup leather piston is one of the forms of piston that would be suggested to a mechanic skilled in the art by the use of the term piston, and would have been so suggested twenty-five years ago, would it?

A. I don't know that it would. Pistons are packed in various ways, and sometimes used wtthout packing, being ground to a tight fit to the walls of the cylinder. If the words used to make the suggestion had been a "piston packed with cup leathers," then the twenty-five years ago would have suggested a piston packed with two cup leathers and provided with proper appliances for holding the cup leathers in place.

27 X Q. Was not this at that time one of the well known methods of packing a piston?

162 A. I have already said that it was, so far as I remember. A piston and a piston-packing are two different things.

28 X Q. If a piston had been described in letters patent in existence at that time, as used in a certain combination, and no particular kind of piston specified, would you understand the application of the piston, with a cup-leather packing in the same combination, after the date of such patent to be a patentable invention?

A. Whether it would or would not be depends on circumstances. If you will show me the patent you refer to, I will, as far as I am able, answer the question with relation to it.

163 53 X Q. Do you consider the device used for packing the plungers in defendant's valve the exact device specifically described in the third claim of reissue 978, or rather as an equivalent for the same?

A. I consider it to be substantially the same device, as the device described in the claim and that used in the defendant's water closet are both cup leather, each operating alternately, first as a packing and then as valve, in substantially the same way.

54 X Q. Either device would, then, perform either in this specific combination, or in any other combination, precisely the same office as the other, would it?

A. I don't know whether it would or not; that depends upon the combination either is used in.

55 X Q. Then, in some combinations, they might cease to be the same thing, might they?

A. They would always be the same thing considered separately and alone and out of the combination in which they were employed. But in those combinations they might perform such different duties that they would cease to be the same thing in those combinations, or even the equivalent of each other.

56 X Q. Is any modification of any other parts of the chamber or valve, or any of the elements operating in this combination, embraced in the third claim of reissue 978, required when defendant's packing device is substituted for that shown in the reissue?

164 A. None, but the substitution of a plunger for a piston.

57 X Q. Do the walls of the chamber require any modification?

A. No.

58 X Q. Suppose a plunger or piston, constructed with a small valve in its head turning upon a hinge, or so attached by some elastic material, that when the plunger or piston is drawn through the water in one direction the valve opens and allows the water to pass through, and when the plunger or piston is forced in the other direction the valve closes and carries the water before it, would the use of such a device or combination of the variable chamber of reissue No. 978 be an infringement of the third claim of this reissue?

A. If the plunger is packed, as ordinary plungers are, by leather collars or a stuffing box, such a device as you describe, and I think I understand the device, would not contain the invention referred to in the third claim of the Carr reissue. But if the plunger were packed as Carr's is, with a cup leather acting alternately as packing and valve, then it would contain that invention, the valve being in this latter case a useless and expensive adjunct to the contrivance.

59 X Q. Every piston or plunger so constructed as to allow the water to pass when it moves in one direction, and force it before it when it moves in the other, would not necessarily fall within this claim, would it?

A. A piston packed with ordinary packing and with a valve in it would not fall within the claim, even if used in combination with the other elements of that claim.

60 X Q. Do you know whether such a piston with a valve in it had been used in this country in controlling the valve of a water closet in connection with a variable chamber prior to 1856?

A. I do not; such a thing is described in the Exhibit Mechanics' Magazine and in Exhibit Kirkwood Design.

Adjourned to Nov. 20th, at 11 a. m.

165 NEW YORK, *November* 20, 1875—11 a. m.

Met pursuant to adjournment.

And the witness, H. B. RENWICK, being further cross-examined by Mr. PARKINSON, says:

61 X Q. From whom did you receive the information in reference to the arrangement of the valve in the Kirkup closet, to which you referred in your direct examination?

A. From Wm. S. Carr, who informed me that he had obtained it from Mr. Kirkup, of Cincinnati.

62 X Q. How long have you known of the use in this country of drip cups, so arranged in reference to valves or stop-cocks as to catch the drip or any escape, whether constant or intermittent, from such valve or cock, and convey the same to some place of delivery?

A. The oldest drip cups that I know of were those applied to the gauge cocks of boilers. They were applied, not to catch the leakage from the outside or the cock or its joints, but to catch the whole water which was discharged through the cock and convey the same to some place of delivery.

My impression is, but I cannot state the fact positively, that in some cases, and with some kind of gauge cocks, they were arranged so as also to catch the leakage from the joints or some of the joints of the gauge cocks.

I have known of drip cups under gauge cocks for some forty years.

63 X Q. Suppose the drip cup in defendants' closet were placed below the hopper, and so arranged as to catch the drip falling from the valve and convey it into the discharge pipe of the hopper, would that in your opinion fall within the first claim of the patent No. 21734?

A. I do not exactly understand how that arrangement hinted at in the question could be carried out with such pan water closets as I know of, because in them, so far as I remember, the stink trap is so arranged as to keep some water in the hopper or container.

166 My impression is that if the valve were arranged on the floor or below the floor, which is the only way in which I can see that the contrivance hinted at in the question could be carried out, and that there was a separate pipe leading into the soil pipe, and having of necessity a trap upon it, that it would not come within the claim of the patent. But this is the first time I have heard the point suggested, and I have not had time to consider the matter carefully.

64 X Q. Suppose the drip cup to be arranged precisely as in defendants' closet, but to convey the drip to some other place of delivery than the hopper, would such a device, in your opinion, fall within that claim?

A. I should think not.

HENRY B. RENWICK.

Subscribed and sworn to the 20th day of November, 1875,

E. G. THOMPSON,

Examiner.

Examination adjourned to November 22d, 1875, at 11 a. m.

167 *Testimony.*

Extracts from record in Keller *et al. vs.* Gibson *et al.*, and Same *vs.* Kirk, made evidence by stipulation.

Frank Milward, being duly sworn, deposes and says as follows, to wit (pp. 29 and 30):

Int. 1. State your name, age, residence, and occupation.

A. Frank Milward; forty-one years; reside in Ludlow, Kentucky; and am engaged in Cincinnati, Ohio, as a solicitor of patents and mechanical engineer. With the exception of the four years of the war, I have been twenty-six years wholly engaged in mechanical operations, superintendent of manufactures, and preparation of letters patent for mechanical devices; during which time, by study and practical experience, I have become familiar with the principles of mechanism and the adaption of the same to the construction of machines. I am almost daily called upon to examine and compare mechanical devices used in the industrial arts, and have frequently testified as an expert in the United States in trials of patent causes. I have made many drawings of mechanical improvements in plumbers' appliances, including water-closets; have examined the same frequently, and am familiar with the operation of such appliances in use. * * [Pp. 44 and 45.]

I have carefully examined a certified copy of the patent to which I am now referred [Carr reissue No. 978], and believe I understand the construction and operation of the improvement in water closets shown and described. * * * * It cannot be said that the invention [in the third claim] is essentially in the provision of a
168 variable chamber broadly, so operating in connection with the valve as to control the action of the valve in closing gradually; nor can it be said that the invention, without reference to other parts, is for a cup leather, which will act as a valve in moving in one direction, and as a packing in the other; for this is a well-known hydraulic form in use for a century, and is a kind of packing in common use now, and which has been in common use to my knowledge for a great number of years prior to 1856 in common pumps, and which may be described as follows: The wooden bucket, to which a valve centrally located is connected, through which the main body of the water passes when the bucket is descending, is now commonly fitted, and has been prior to 1856, with a cup of leather, which, in moving in one direction—namely, downward—allows the water to pass by its outer edge, and in moving in the opposite direction closes against the containing cylinder, so as to prevent the passage of water by it when the water is being elevated; and this is the principle of construction and operation of all cup leathers or hydraulic packing. [P. 48, int. 22, *et seq.*]

I have carefully examined the certified copy referred to [Bartholomew, No. 21734], and understand the construction and operation of the drip-cup referred to in the first claim thereof. I have known personally of the use of drip-cups for catching drippings of water, oil, and other fluids to have been in public use since 1848. I have seen them used and used them in machine shops, in which drippings occur from various causes, some of them being made of sufficient capacity to contain drippings in a long period of time, to be emptied when necessary. This was in cases where, as in the bearings of shaftings, where the drip-pan was hung under the bearings to catch the drippings of oil, and where it was inconvenient to conduct it away in a pipe. The object was to prevent the drippings from falling on the floor. And in other cases, such as catching the drippings from the pet cocks of steam cylinders of locomotives and stationary engines and the gauge cocks of steam boilers. I have seen drip-cups used having the pipes attached for conveying the drippings to any place, to any suitable place away from the cocks, and thus prevent the drippings from falling on the floor.

169 Besides the cases which I have referred to as having been seen by me in 1848, I have seen other instances from that to 1856; and in the latter part of 1856 I have seen drippings, with conveying pipes for carrying off said drippings, applied to machines which I assisted in building at Philadelphia for operating in sugar-mills, and in Brooklyn and in New York city, both in the year 1857. I have seen drip-cups employed and publicly used about steam-engines and hydraulic machinery for collecting the drippings and conveying away. The drip-cups as known among mechanics for collecting drippings of fluids from cocks, valves, and other sources is one of the earliest contrivances with which I became aware in commencing my mechanical career.

Isaac V. Holmes [p. 53] says:

My name is Isaac V. Holmes; age, 45 years; residence, Cleveland, Ohio, and my occupation mechanical engineer. I have been for the last twenty years actively engaged as a constructing engineer and draughtsman in the designing of various kinds of machinery; for eight years was superintendent of construction at the Novelty Iron Works, New York, and for the past five years have occupied the position of engineer and superintendent of a manufacturing establishment located at Mt. Vernon, Ohio. I am now a member of a commission, appointed by Congress, to make tests relative to the cause of boiler explosions. [P. 56, ans. 10.] I have applied drip-cups as early as the year 1852, for the purpose of catching the drippings of water that would leak down the gauge cocks placed on the front of marine boilers, and so arranged in relation to said cocks that the waste water would be caught in those drip-cups, and carried from them, by suitable connections, into the bilge of the vessels. I have applied, in same year and since, suitable drip-cups to the valve stems of engines, for the purpose of catching the waste water that would leak through the stuffing-box packings, and convey the same, by suitable connections, clear of the working parts of the machine. I have also applied them for collecting the drip or waste water from the check and stop valves attached to the pump chambers of hydraulic presses. These applications of drip-cups were made by me to engines and boilers constructed at the Novelty Iron Works, New York city, and the application of the same

170 to hydraulic pumps, to such machines built at the same works

and erected in cotton presses in the city of New York about 1855. They were public uses, and were not considered a new application or device. * * * I have seen them applied to hydraulic pumping apparatus. for the purpose of catching the waste water from valves, as early as the year 1850, in the cities of New York and Brooklyn.

Int. 14. Will you make a sketch showing some of the applications of drip-cups with which you are familiar, as in public use in *in* New York and Brooklyn prior to the year 1854, and append the same to your deposition?

A. I herewith produce such a sketch [p. 57], marked Holmes' Sketch No. 2, wherein Figs 1 and 2 represent application of drip-cups to pumps which I was familiar with as being applied prior to 1854, wherein portions marked *a* represent drip cups, and points marked *b* the openings or pipe through which the waste water was delivered—the pipe represented in Fig. 2 being continued to a drain, into which the water was discharged.

Int. 15. Describe what drip is caught in the several cups.

A. The drip from the pump valves proper, and also that of the regulating valve connected therewith, and in Fig. 1 also the leakage from the pump plunger.

(Here follows diagram, marked p. 171.)

Robert Kirkup says [p. 59:]

My age is 44 years; residence, Cincinnati, Ohio, and occupation that of brass finisher.

Int. 2. What familiarity have you, if any, with the construction of water closets?

A. I have worked at them, off and on, in Cincinnati since about 1852 or 1853 up to the present date. It has been part of my trade during that time.

Int. 8. Did you not ever make pan closets which were fitted with drip cups to the valves?

A. I have.

Int. 4. How long ago did you make them?

A. I am positive I made them in 1854, probably before that, in Cincinnati.

172 Int. 5. Did you make them in the regular course of business for sale, or were they privately made?

A. I was working at the time for James Hume, and made the closets for him in the regular course of business, and they were sold by him in his business.

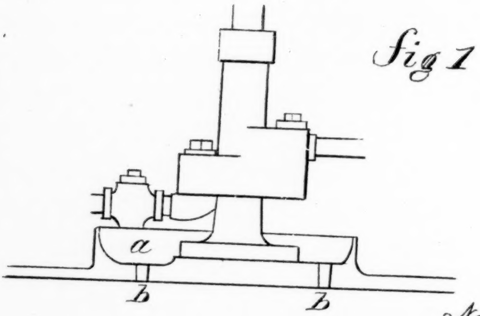
Int. 6. Have you continued to make them since then, 1854?

A. We made them up to the breaking out of the war. I went to the war, and consequently did not work on them after that. Soon after that Mr. Hume died.

Int. 7. Can you produce one of these closets made by you in 1854?

A. I can produce one made off the same pattern, which is an exact *fac-simile* of those made in 1854, and I here produce it, and mark it "Exhibit Kirkup Closet."

Fig 1



No. 189
Thompson Electric &c.
vs.
Boisselier et al
} p 171

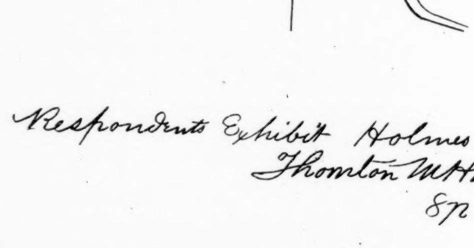
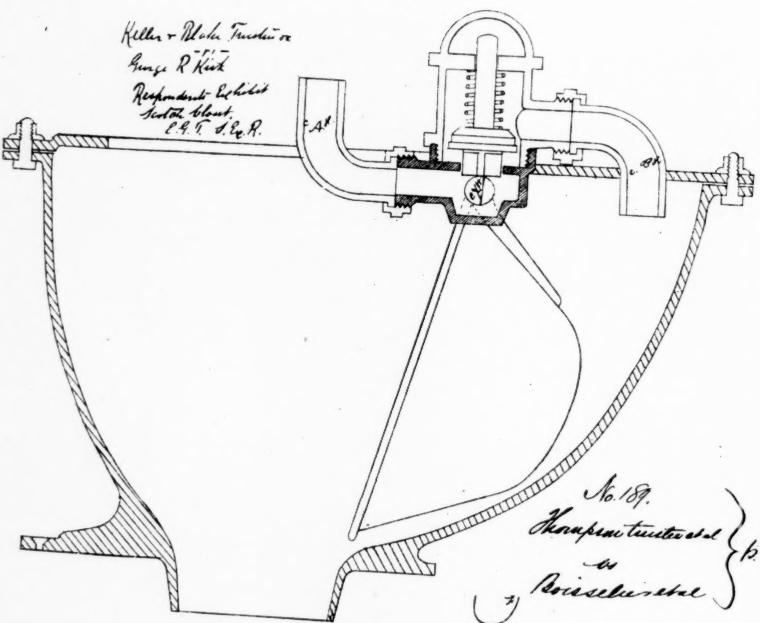


Fig. 2.

Respondents Exhibit Holmes Sketch No 2
Thornton M Hinkle
Sp Ex.r



Keller & Blake Trustees vs
George R Kirk
Respondent's Exhibit
Scotch Closet
E.G.T. S.Ex.R.

— Side Section —
— Showing Valve and pan open —

No. 189.
Hauptmeister et al
vs
Boisselier et al
p. 172.

Int. 8. How did this drip-pan operate?

A. Any leakage from the valve falls down into the saucer and runs through the small hole, and finds its way into the inside of the trunk.

William Nicoll says, [p. 73:]

I am 57 years of age; I reside at 156 Tompkins avenue, Brooklyn, Long Island; I am a brass cock manufacturer; I was in the employ of J. & H. Jones & Co. from the spring of 1843 until 1851, I think, at any rate.

Int. 4. Will you look at the drawing [p. 74] now shown you and state how the valve and closet there shown compares with that made by you for J. & H. Jones at that time, and which you call the valve closet?

A. This seems to be a very close copy of the closet that I made at that time.

Int. 7. Where was the valve placed with reference to the hopper of the closet?

A. It was outside of the hopper, attached to the cover.

Int. 8. Was it below or above the hopper?

A. There was a piece cut out of the hopper like that shown by the mark which I made in the drawing, as letter F, for the valve to rest on. That brought it on à level with the upper rim of the hopper.

173 Int. 9. What became of the drips of the valve—where did it fall?

A. It fell into the hopper.

Int. 10. Did it fall through this hole or depression marked F?

A. It did not; that was completely closed up by the valve resting in it.

Int. 11. How then did it pass into the hopper?

A. Well, it passed from the end of the axle, and just dripped down from the end of the axle. There was no other way for it to escape.

Int. 12. Did the drips all fall within the hopper?

A. As far as I recollect it did.

Int. 13. During what years were these made and sold to your knowledge in this city?

A. That is a question I can hardly answer. They were made and sold during the time I was in their employ; I know that.

Int. 14. When did you leave their employ?

A. I think it was in 1851.

[Respondent here offers in evidence the drawing referred to by witness, and marked the same "Respondent's Exhibit Scotch Closet."]

(Here follows diagram, marked p. 174.)

X Int. 1. From what point of view is the drawing, "Exhibit Scotch Closet," taken?

A. From the outside.

X Int. 2. Does it correctly place the position of the valve and the supply and the discharge pipe?

A. It does.

X Int. 3. Was the valve situated substantially over the middle of the receiver, as shown in this drawing?

A. That don't show it over the middle of the receiver, but over the back of the receiver; but that seems to be the way in which we made them.

CHARLES HARRISON says, [p. 75:]

I am 57 years of age; I reside in New York city; I am a manufacturer of plumbers' supplies.

175 Int. 2. Please state how you were engaged from 1850 to 1852.

A. In the same business.

Int. 3. With what firm and where?

A. With J. & H. Jones & Co., in White street, New York city.

Int. 4. Did you, during that time or any part of it, manufacture water closets?

A. Yes, sir.

Int. 5. Will you look at Respondent's Exhibit "Scotch Closet" and state how the valve and closet therein compares with those made by you, or by J. & H. Jones, or by J. & H. Jones & Co., during that time?

A. This appears to be an exact drawing of it, having all the features of the closet we made.

Int. 6. How early did you make that closet?

A. As early as July, 1849.

Int. 7. Did you sell them in considerable quantities?

A. We sold them regularly for several years.

Int. 8. How was the valve arranged with reference to the hopper of the closet?

A. It was attached by a hollow arm running from the valve under the cover of the closet, and was attached by lugs to the cover of the closet, running through the side of the trunk.

Int. 9. What became of the drip from the valve?

A. The drip from the valve ran through that hollow arm and into the trunk or hopper of the closet.

Int. 10. Was this hollow arm so arranged as to catch whatever drip fell from the valve?

A. Yes, sir.

Int. 11. Is that hollow arm shown in the drawing; and, if so, will you mark the same?

A. It is intended to be shown at the place I have marked "X. C. H."

X Int. 12. Please state where the valve is placed in the closet, whether directly over the receiver or at the side.

A. At the side.

X Int. 13. Please mark the inlet pipe B, and the exit pipe A.

A. I do so, and add my initials "C. H." thereto.

176 X Int. 14. Where is the hollow arm with reference to the receiver?

A. It goes through the side of the receiver, and is attached to the cover by lugs.

X Int. 15. From what to what does the hollow arm extend?

A. From the side of the chamber of the valve into the receiver.

X Int. 16. You mean from the shell of the valve into the receiver?

A. Yes, sir.

X Int. 17. And communicates from the interior of the valve-chamber into the receiver?

A. That is, from the lower part of the valve-chamber.

Red. int. 18. Do you mean that the shell of the valve, as you have called it, is so arranged that the drip of the valve falls into it, and is thence conveyed into the receiver from the hollow arm, or do you mean that the hollow arm connects directly with the chamber of the valve itself?

A. Both.

Red. int. 19. Is it so arranged as to catch all the drip from the valve?

A. Yes, sir.

Red. int. 20. Are the exit and inlet pipes so arranged that they may be used interchangeably?

A. I should say no.

X Int. 21. Is the pipe X so arranged as to catch the drip of the couplings which unites the inlet and outlet pipes with the valve?

A. No.

177 *Testimony of Timothy D. Turner.*

Blake *et al.*
vs. } Case No. 965.
E. E. Boisselier *et al.*

Proofs on the part of defendants for final hearing taken before L. L. Walbridge, special examiner, February 19, 1880, at No. 421 Olive street, St. Louis, Mo., under and in pursuance to the 67th rule in equity, as amended, and pursuant to notice.

Present: S. S. Boyd, Esq., counsel for defendants.

Counsel for complainants, Charles F. Blake, Esq., consents that the defendants may take their testimony in his absence, reserving him the right of objection and cross-examination.

Timothy D. Turner, a witness of lawful age, produced on the part of the defendants, having been duly cautioned to testify the truth, the whole truth, and nothing but the truth in the matter in controversy, and being examined by S. S. Boyd, Esq., on behalf of defendants, deposes and says as follows:

Int. 1. What is your name, residence, and occupation?

A. Thomas D. Turner; residence, St. Louis; a plumber by occupation.

Int. 2. How long have you been engaged in that business?

A. Forty years.

Int. 3. Have you any experience in the construction of water closets?

A. I have, sir.

Int. 4. For how long?

A. During that time.

Int. 5. Please look at the drawing attached to the specification of James Humes' patent, page 23 of the record of Keller *et al.* against Gibson and others, and state the construction of the valve of the piston shown there.

A. The piston J in this figure 4 is an ordinary cup leather, representing the cup leather on a piston of a plunger, and operates precisely the same as the cup leather and piston shown in Carr's patent reissue 978.

178 Int. 6. How long have you known the use of a cup leather of that sort.

A. Thirty-five years.

Int. 7. For what purpose were they used?

A. For pump plungers and water closet valves; that is the principal use for which they were adopted.

Int. 8. Please look at the exhibit now shown you, marked "Defendants' Exhibit Pump Plunger," and state what that represents.

A. That represents a plunger to a pump.

Int. 9. For how long have you known it?

A. Thirty or thirty-five years; used constantly for that time; for the force-pump they have a double one open both ways, one above and one below.

Int. 10. When this cup leather is used in the plunger of the pump what advantage is gained over the ordinary packing?

A. It is more durable and the stroke is much easier; it is much easier worked; there is less wear on the chamber, less friction on the chamber, and more durable and much less liable to leak. On the down stroke the cup leather contracts and allows the water to pass by it, and on the up stroke it spreads out and raises the water with it. Many pumps are made without that valve—the central poppet valve. Take the old style wooden pump; they did not have any poppet valve in them at all, but depended upon contraction and expansion of the cup leather for the raising of the water.

Int. 11. How long ago were pumps constructed without the poppet valve?

A. The first were constructed, the old style, probably thirty-five years ago. They never had any poppet valve; didn't know anything about them, and didn't use them at all.

T. D. TURNER.

179 CHARLES F. BLAKE, Trustee, &c.,
vs. } No. 1378.
JOHN C. KUPFERLE *et al.*

Proofs on the part of defendants for final hearing, taken before L. L. Walbridge, special examiner, February 19, 1880, at No. 421 Olive street, St. Louis, Mo., under and in pursuance to the 67th rule in equity, as amended, and pursuant to notice.

Present: S. S. Boyd Esq., counsel for defendants.

Counsel for complainants, Charles F. Blake, Esq., consents that the defendants may take their testimony in his absence, reserving to him the right of objection and cross-examination.

Testimony of Timothy D. Turner.

TIMOTHY D. TURNER, a witness of lawful age, produced on the part of the defendants, having been duly cautioned to testify the truth, the whole truth, and nothing but the truth in the matter in controversy, and being examined by S. S. Boyd, Esq., on behalf of defendants, deposes and says as follows:

Int. 1. What is your name, residence and occupation?

A. Timothy D. Turner; residence, St. Louis; a plumber by occupation.

Int. 2. How long have you been engaged in that business?

A. Forty years.

Int. 3. Have you had any experience in the construction of water closets?

A. I have, sir.

Int. 4. For how long?

A. During that time.

Int. 5. Please state when you first knew of water closets having drip pans connected with them for the purpose of collecting the drip from the valve.

A. The first I can locate is about 1852, I think. It was in the Planters' House of St. Louis. It was not later than 1852, and it may have been 1851.

Int 6. Now explain the construction of the drip pan?

180 A. It is shown in the drawing hereto annexed, marked "Defendants' Exhibit Turner." This is the mode of constructing those drip pans at that time as shown in this cut. The drip pan is represented by C, the valve by D, and the waste by X, there being an indentation there under the flange of the hopper, connecting with the soil pipe, for the purpose of discharging the drip, or any leakage from the valve into the soil pipe.

Int. 7. How many of those did you put in the Planters' House?

A. I put in 22, I think.

Int. 8. After these were put in by you in the Planters' House, state when you know of any others being used.

A. They were of general use in St. Louis wherever we put in water closets, and this mode of catching the drip water was adopted. Whenever I wanted to make a nice job, in place of the indentation X a pipe was used leading into the soil pipe to carry off the drip. When the pipe was used the drip was led to a soil pipe at a point below the trap, so that if anything happened to stop the water closet pipe the waste would not run into the drip pan but be free to run into the soil pipe.

T. D. TURNER.

Testimony of Patrick Madden.

PATRICK MADDEN, a witness of lawful age, produced on the part of the defendants, having been duly cautioned to testify the truth, the whole truth, and nothing but the truth in the matter in controversy, and being examined by S. S. Boyd, Esq., on behalf of defendants, deposes and says as follows:

Int. 1. What is your name, age, residence, and occupation?

A. My name is Patrick Madden; forty-four years old; reside in St. Louis; occupation, plumber.

Int. 2. How long have you been engaged in the plumbing business?

A. Since 1854.

Int. 3. In what place have you been engaged?

A. I have been engaged in New York, San Francisco, and St. Louis.

Int. 4. How long have you been in St. Louis?

A. Four years and three months the 11th of next March.

Int. 5. What acquaintance have you with water closets?

181 A. It has been part of my business; since I went in the business, in March, 1854, I worked for Nicholas Garraty, of New York, who is still in the business, I believe, at 435 and 439 Third avenue, New York city.

Int. 6. Please look at the drawing, marked "Defendants' Exhibit Madden," now shown you, and state what that represens.

A. That represents a water closet made by Garraty in 1854, while I was with him; B represents the drip-pan; C the valve, and there was an outlet, a tube at about the point marked X, leading into the soil pipe to carry off the drip from the valves, or from any part of the trunk of the closet.

P. MADDEN.

[Folios 182, 183, 184 missing.]

185 EXHIBITS.

Respondents' Exhibit, Hulme Patent.

A. D. 1841. Water Closets. No. 8971.

Hulme's Specification.

To all to whom these presents shall come, I, George Hulme, of Saint John's street, West Smithfield, in the county of Middlesex, brass and cock founder, send Greeting:

Whereas Her present Most Excellent Majesty Queen Victoria, by her letters patent, under the great seal of Great Britain, bearing date at Westminster, the twenty-seventh day of May, in the fourth year of her reign, did, for herself, her heir, and successors, give and grant unto me, the said George Hulme, her especial license, full power, sole privilege, and authority that I, the said George Hulme, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time, and at all times during the

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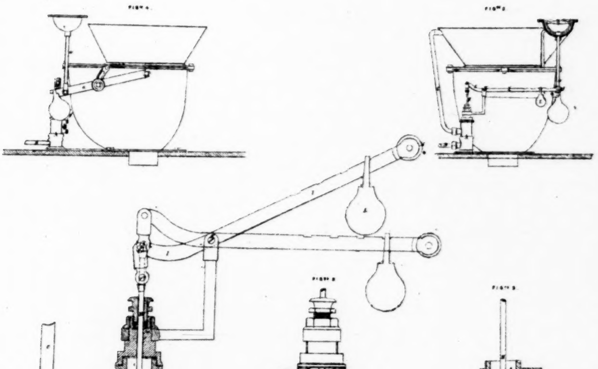
A. D. 1861. May 27. Nº 1371.
HULME'S Specification



term of years therein expressed, should and lawfully might make, use, exercise, and vend within England, Wales, and town of Berwick-upon-Tweed my invention of "improvements in water closets;" in which said letters patent is contained a proviso that I, the said George Hulme, shall cause a particular description of the nature of my said invention, and in what manner the same is to be performed, to be enrolled in her majesty's high court of chancery within six calendar months next, and immediately after the date of the said in part recited letters patent, as in and by the same, reference being thereunto had, will more fully and at large appear:

Now know ye, that in compliance with the said proviso, I, the said George Hulme, do hereby declare that the nature of my said improvements, and the manner in which the same are to be performed, are fully described and ascertained in and by the following statement thereof, reference being had to the drawings hereunto annexed (figures 1, 2, and 3 being drawn to a scale of about 186 half size, and figures 4 and 5 of three inches to one foot), and to the figures and letters marked thereon, that is to say:

My improvements relate to a method of supplying a flow of water to the basins of water closets generally and in order that my improvements may be more fully understood, I will at once proceed to the—

Description of Drawings.

Figure 1 represents a cross-section of a pump barrel; figure 2, section of the barrel taken through the cock; figure 3, section of a barrel, adapted for a self-acting closet; figure 4, front view of an ordinary water-closet, showing my improvements attached thereto; and figure 5, an end view of the same. A A, the barrel; B, the supply pipe connecting with the reservoir; C, the pipe connecting with the basin; D, a bucket furnished with a valve E to allow water to pass from the under to the upper side of the barrel A through holes at *. At the under side of the bucket D the valve F is connected by a loose joint working against the valve-seat G. The upper side of the bucket D is connected by the rod H to the lever I, having its fulcrum at K. This lever is furnished with notches for adjusting the weight L, the other end of the lever being furnished with a friction-roller M. It will appear evident that by raising the handle and lever *a*, the end of the lever I will be acted upon, thereby depressing the bucket D, opening the valves E and F, and consequently allowing a free passage for the flow of water from the reservoir through the valve E, to supply the upper side of the bucket, and through the pipe C to the basin of the closet, the quantity of water admitted into the basin of the closet being regulated by the cock O. To regulate the length of time that the valve F may be kept open for the flow of water from the reservoir to the basin of the closet, after the pan or valve has closed, the barrel A A is furnished with the openings N N, communicating from the under to the upper side of the bucket D, and fitted with a cock O. Now, by turning the cock O in such a position that the water-way through the cock O will be diminished, more time will be

187 required for the bucket to displace the contents of the barrel, and *vice versa*, the water from the reservoir forcing its passage through the pipe B, the valve-way G, and pipe C into the basin of the closet—the water continuing to flow until the valve F is brought into contact with the valve-seat G, which is affected by the gravitating power of the weight L depressing the end of the lever I, forcing the water from the upper side of the bucket D through the passage N N and cock O, when the communication of the reservoir will be shut off, and the apparatus in a position, as shown by red lines, to perform another similar evolution.

Having thus described the nature of my said improvements, and the manner of performing the same, I would have it understood that I do not confine myself to the particular form or size set forth in the accompanying drawing, but what I claim is the mode, hereinbefore particularly described, of keeping a valve open for any required length of time for the supply of water to the basins of water closets generally.

In witness whereof, I have hereunto set my hand and seal this twenty-seventh day of November, in the year of our Lord one thousand eight hundred and forty-one.

[SEAL.] GEORGE HULME.

[Here follow cuts, marked pages 188 and 189.]

190 *Respondents' Exhibit, Kirkwood's Design.*

Registered October 21, 1848.

Description of William Kirkwood's piston cock.

The principal, though not the only, object sought to be attained by this cock is that it shall supersede the use of the retaining-box in water closets of every description, and also dispense with the use of the cistern that is generally placed over the water closets, with its cranks and wires, and enable the workman at once to connect the water closet with the water pipe in any situation and under any pressure of water; it being constructed so that it shall fill the basin to any extent that may be desirable, and that by the ordinary operation of lifting the handle, which it effects in the following manner: B B, the body of the cock, being truly cylindrical. C, the entrance pipe, with its coupling screw D. F, the exit pipe. G G, the piston which slides accurately throughout its length within the cock. H H, the piston-rod, with a small valve at K, ground into a seat in the bottom of the piston—that portion of the rod which works through the piston being triangular, as shown in the plan at L. M, a pin that passes through the piston-rod for the purpose of depressing the piston. N N, a leather washer fitting into a recess in the top of the piston and kept in its place by the screw-nut P. R R is another leather washer fixed to the bottom of the piston by the plate and screws S S, for the purpose of rendering the piston air-tight within that portion of the cock which it occupies and through which it slides.

English Design Patent
No
1633
Dated Oct 21st 1848

PISTON COCK.

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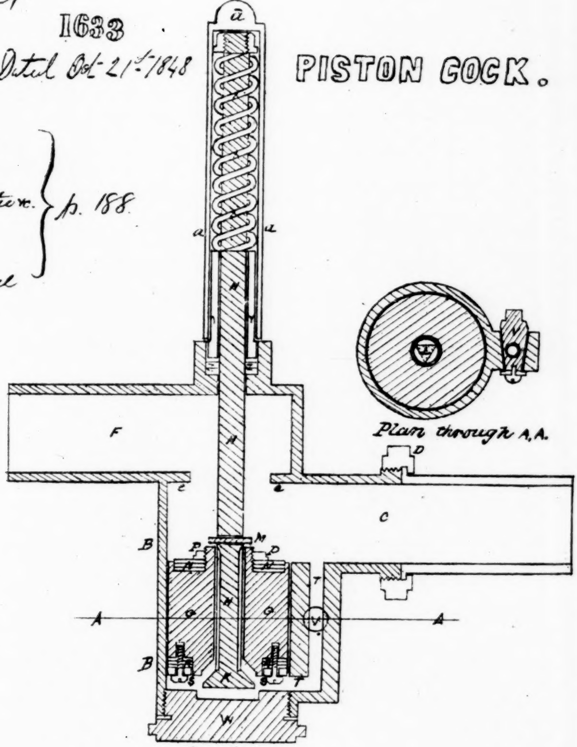

Plan through A.A.

Section

William Kirkwood of West Thistle street Lane
Edinburgh. Proprietor

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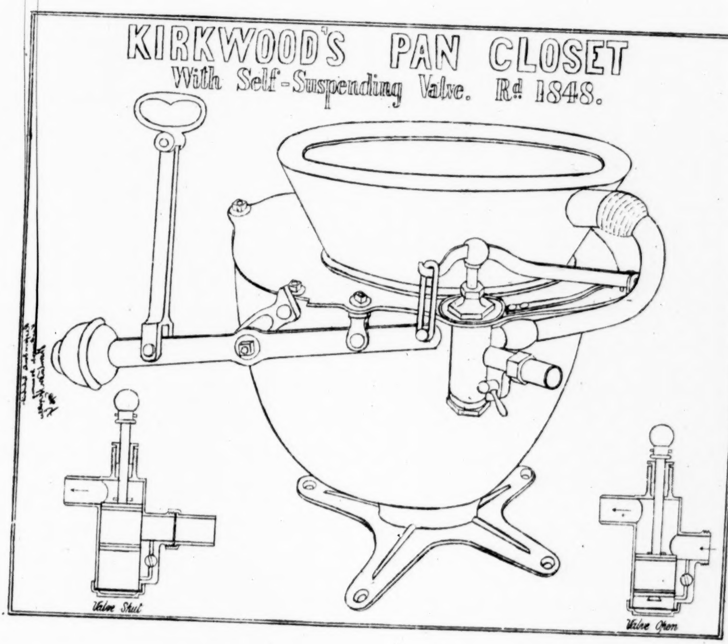

Practical Mechanical Journal.
Page 210 Vol 1st Date 1848-9.

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} p. 192.

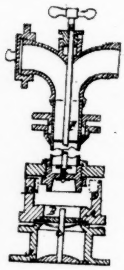


Fig. 1

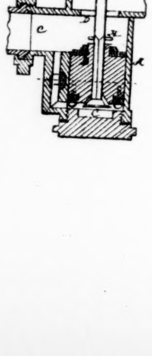
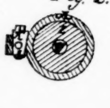


Fig. 2.



T T, a small water passage from the entrance pipe to the bottom of the cock, having a small stop-cock V. W, the screwed bottom of the cock. X X X, a spiral spring for the purpose of raising the piston. Y Y, a tube that retains the packing Z Z, around the piston-rod, and is pressed down by the spring X X. A A, the cover that protects the spiral spring.

191 The cock, as shown in the drawing, is open. Now, it will be seen that when the power is removed that depresses the piston, the small valve K will be instantly closed by the action of the spring X X. And supposing V, of the small water passage, to be shut, it will be evident that the piston cannot leave its place, for its tendency will be to form a vacuum behind it; but by allowing a portion of the water to pass to the bottom of the piston, by opening the cock V in the small water-passage, the vacuum will be destroyed and the piston will then begin to rise (but only in proportion to the quantity of water that is admitted below it); and this will be effected steadily until the leather washer N presses against the portion of the cock at E E, which is ground flat to receive it. The whole pressure of the water through the small water-passage, now acting upon the whole area of the piston at S S, will keep it completely tight. When the cock is to be opened by pressing on the top of the spring at A, the small valve K will open, and the water that is lodged below the piston passes through the piston by the triangular portion of the rod, and escapes freely at M. This passage being much larger than the water way of the small cock V, all pressure is removed from below the piston, which, by this means, is easily depressed, whatever may be the pressure of the water.

The novelty of this cock consists in this, that by the simple regulation of the small cock V, any quantity of water may be delivered by it, after the power by which it is opened is withdrawn; and when once regulated to the proper quantity desired, it will continue to deliver that quantity before shutting.

The parts of this design, which are not now in respect of the shape and configuration thereof, are all the parts, except the portion of the cock at B B.

(Here follows cut, marked p. 192.)

193 *Respondents' Exhibit, "Mechancis' Journal."*

Extract from "Practical Mechanics' Journal," Vol. 1, page 209, A. D. 1848–49.

Improvements in Hydraulic Machinery. Chrimes' Fire-cock, Kirkwood's Piston-cock.

We last month drew attention to Mr. Scott's new hydrant, as one of the signs of the tide of improvement in hyraulic apparatus; and the two arrangements, whose names stand at the head of this article, furnish further confirmation of that opinion. The first-named invention is by Mr. Chrimes, of the firm of Guest & Chrimes, of Rotherham. It is available for all the numerous offices of stop-cocks generally; and, from its suitability for high-pressure purposes, it would appear to be peculiarily adapted as a substitute for the ordinary fire-plug. Our cut exhibits a vertical section of a two-inch cock, with its stand-pipe detached, on a scale of one-sixth the real size. A A is the shell or case, in two parts, bolted by its bottom flange to the corresponding flange on the main pipe. The bottom face of the upper half of the shell is recessed to receive a ring of India-rubber, forming a face for the valve *e*, as well as a water-tight joint between the two parts of the shell. A brass bridge, B, is attached to the same part, for the reception of the spindle C, cast upon the loose inverted valve; a similar bridge is placed at the bottom of the shell, and the valve *e* is thus steadily guided by the two, being always pressed up against its face, when out of action, by the force of the water beneath it.

The upper portion of the shall has two inverted L-shaped projections, D D, for the attachment of the stand-pipe, when the cock is to be put in action. The stand-pipe is a copper or iron tube, E, having diverging discharge-pipes at its upper end, one or both of which are fitted with brass screw-caps, as represented on the left branch.
194 This pipe is fitted with a revolving stuffing-box joint at E, to permit of the setting of the upper discharge-pipe to any position.

The bottom part of the stand-pipe has an exterior screw cut upon it, working in an interior one in a collar, which has projecting pins for passing beneath the L projections D D, a water-tight junction being effected by a leather washer resting upon the bottom inner face of the shell.

The opening and closing of the valve is effected by a vertical spindle, F, with a cross-head at top; this rod passes through a stuffing-box at the top of the stand-pipe, and is screwed at its lower extremity to work through the fixed bridge G. It will be seen that when the stand-pipe is brought to its bearing the lower end of the actuating spindle will be just above the spindle of the valve C, a gradual depression of which is easily effected by turning the former so as to cause it to descend through its bridge-nut, and act upon the top of the spindle. This admits of the gradual upward passage of the water all around the valve, and no shock is felt on opening or closing. The board of ordnance have tested the cock, both in Yorkshire and at the Tower, with favorable results.

The piston-cock is the invention of Mr. W. Kirkwood, plumber, of Edinburgh, and relates to a distinct branch of hydraulic mechanism. It is intended to supersede the retaining-box and cisterns usually employed in water closets, as it enables the workman to connect the apparatus with the water pipe direct, under any pressure of water.

Figure 1 is a vertical section of the cock, and figure 2 is a horizontal section through the piston and regulating stop-cock. A is the main shell, bored to receive the piston B, which is here represented in its lowest position, the water-way being open. C is the entrance branch for the water which passes over the top of the piston, through the opening D, and out by the discharge branch E.

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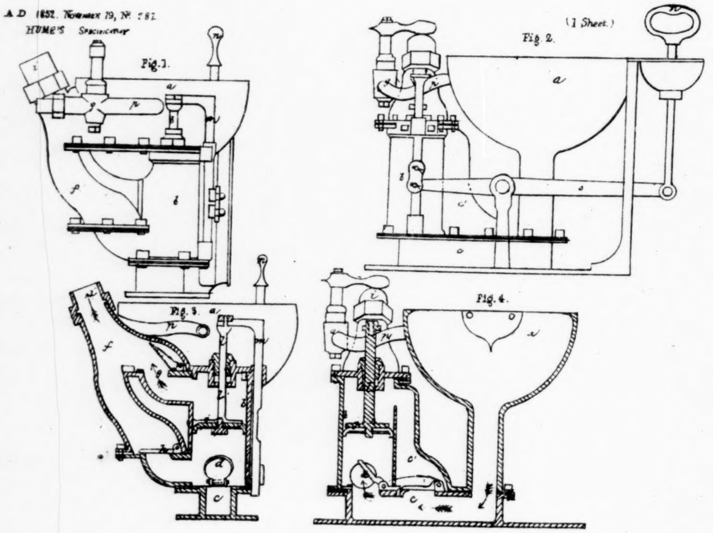
A.D. 1852. November 19, Nº 781.
HUME'S Specification

(1 Sheet.)



The piston B slides loose upon the lower end of the piston-rod F, which is of a triangular section at that part, as seen in figure 2.

195 A small conical valve is attached to or formed upon the lower end of the rod F, a recess being formed at G, to permit of its descent. A small pin is attached to the piston-rod at H, by which pressure may be communicated to the piston through the rod. At K, a small stop-cock is fitted in a branch passage leading from the entrance-pipe to the space below the piston, which has a ring of leather screwed to its lower face to render it air-tight below.

In our engraving, the conical valve is supposed to be depressed by some external action upon the top of the tube L, but if this pressure is removed, the valve will be instantly closed by the action of the spring coiled round the rod. If, in such case, the stop-cock K is closed, the piston cannot leave its position, as its motion would tend to form a vacuum behind it. If, however, a small quantity of water is allowed to pass to the bottom of the piston, the latter will begin to rise, but only in proportion to the quantity of water admitted. The upward motion of the piston will then be gradually effected, until the leather washer on its upper surface presses against the ground surface of metal round the opening D, and the full pressure of the supply water, now acting upon the bottom of the piston, through the stop-cock K, will keep the former tight. When the cock is to be opened, by pressure upon the tube L, the conical valve K will open, and permit the water beneath the piston to pass up through it by the openings left by the triangular portion of the rod, and as this passage is much larger than that through the stop-cock, the pressure is thus removed from below the piston, which may now be easily depressed by the pin H in the rod. The peculiarity of the arrangement is that by the simple regulation of the stop-cock K, any quantity of water may be delivered by it, after the opening power is withdrawn, and, when once regulated, it will always continue to deliver the proper quantity before closing.

(Here follows cut, marked page 196.)

197 *Respondents' Exhibit "Hume Patent."*

Specification.

In pursuance of the conditions of the letters patent filed by the said James Hume, in the Great Seal Patent Office, on the 19th May, 1853.

To all to whom these presents shall come I, James Hume, of Birkenhead, in the county of Chester, plumber, send greeting:

Whereas Her Most Excellent Majesty, Queen Victoria, by her letters patent, bearing date the nineteenth day of November, in the year of our Lord one thousand eight hundred and fifty-two, in the sixteenth year of her reign, did, for herself, her heirs, and successors, give and grant unto me, the said James Hume, her special license that I, the said James Hume, my executors, administrators, and assigns, or such others as I, the said James Hume, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time, and at all timef thereafter during the term therein expressed, should, and lawfully might, make, use, exercise, and vend within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an invention for "*improvements in water closets,*" upon the condition (amongst others) that I the said James Hume, by an instrument in writing, under my hand and seal, should particularly describe and ascertain the nature of the said invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said letters patent.

Now, know ye, that I, the said James Hume, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof (that is to say):

198 This invention consists of improvements in that class of water closets where the soil and water are removed from the basin by means of a pump; and, in order that my said invention may be most fully understood and readily carried into practice, I will proceed to describe the drawings hereunto annexed, in the various figures of which the same letters are used to indicate similar parts.

DESCRIPTION OF THE DRAWING.

Fig. 1, an elevation of a water closet having my improvement applied thereto; Fig. 2 is a front elevation of the same; Fig. 3 shows a transverse section thereof; and Fig. 4 shows a longitudinal section. A is the basin, which may be of the form shown, or otherwise, and does not differ from those heretofore used; *b* is a double-acting pump, which is connected to the bottom of the basin by means of the pipe and the valve chest *c* and branch pipe *c′*, which passes to the upper part of the pump barrel or cylinder, as is shown; *d*, *e*, are two valves in the valve chest, one opening into the barrel or cylinder of the pump below the piston, and the other opening into the branch pipe *c′*; the pump has a branched outlet pipe, *f*, as shown, there being two valves, *g*, *h*, opening outward; the one *g* is that through which the contents of the upper part of the pump are discharged, and the other, *h*, is that through which the contents of the lower part of the pump barrel are discharged by the pipe *i* into the sea or other water or place; *j* is the piston, and *l* the piston rod, which is fixed to the rod *m*, which moves in guides and is put in motion by the handle *n*, attached to the lever *o*, the other end of which is connected to the rod *m*, as shown. Water is supplied to the basin by the pipe *p*, on which there is a cock or tap, *q*, with a handle and pointer, with dial or plate to indicate when the same is shut. After using this water closet the contents of the basin are pumped out, and water is then allowed to flow into the basin.

Having thus described the nature of my invention and the manner of performing the same, I would have it understood that I make no claim to any of the parts separately, but what I claim is the combination of apparatus herein described.

199 In witness whereof, I, the said James Hume, have hereunto set my hand and seal, this sixteenth day of May, in the year of our Lord one thousand eight hundred and fifty-three.

[SEAL.] JAMES HUME.

Witness:
JOHN WALKER, *Birkenhead.*

200 At Court, Thursday, May 13th, 1880.

CHARLES F. BLAKE, Trustee, WILLIAM S. CARR, and FRED'K H. BARTHOLOMEW, Complainants,
vs.
ELIZABETH E. BOISSELIER and JOHN C. KUPFERLE, Respondents.
} 965.

This cause coming on to be further heard at this term upon the pleadings, proofs, and arguments of counsel, was submitted to the court, and thereupon, upon consideration thereof, it was ordered, adjudged, and decreed as follows: That the said reissued letters patent in the bill of complaint set forth are not good and valid in law; that the bill of complaint herein be, and the same is, dismissed, and that said complainants pay the costs herein to be taxed, and that a fee bill or execution issue therefor.

201 United States Circuit Court, Eastern District of Missouri. In Equity.

CHARLES F. BLAKE, Trustee, &c., *et al.*,
vs.
ELIZABETH F. BOISSELIER and JOHN C. KUPFERLE.
} Case No. 965.

CITY, COUNTY, AND STATE OF NEW YORK, *ss:*

Edward G. Thompson, being duly sworn, says: I am of full age, reside in the city of New York, and am a member of the firm of Wetmore, Jenner & Thompson, solicitors & counsel for the complainant herein.

On or about the 20th day of September, 1880, William S. Carr, one of the complainants herein, departed this life, at the city of New York, leaving a last will and testament, and by his last will and testament he appointed his wife, Clara E. Carr and George D. Scott his executrix and executor respectively.

Theaeafter the said last will and testament was duly admitted to probate, and said Clara E. Carr and George D. Scott duly

202 qualified as executrix and executor respectively thereunder.

That thereafter, and on or about the 21st day of February, 1881, Charles F. Blake, (trustee for his co-complainants, William S. Carr and Frederick H. Bartholomew,) also one of the complainants herein, as such trustee, departed this life at the city of New York, and that by his said death the trust lapsed.

That thereafter, and on or about the 14th day of March, 1881, deponent, by duly drawn, executed, and delivered instruments in writing, and under seal, was appointed by said Clara E. Carr and George D. Scott, and by Sarah Bartholomew, (in whom the title to the Bartholomew patent here in suit of right belongs, and who should have been complainant here in the place and stead of said Frederick H. Bartholomew,) trustee for them in the place and stead of said Charles F. Blake, deceased, and that thereafter deponent accepted the said trust and acted under the same, and that the patent here in suit was then assigned to deponent in trust.

203 Wherefore deponent prays that the order hereto attached may be made herein reviving this cause and making deponent as trustee, and Sarah E. Carr executrix and George D. Scott executor respectively of said William S. Carr and Sarah Bartholomew, parties complainant in the place and stead of the present complainants, and that all the proceedings herein stand.

E. G. THOMPSON.

Subscribed and sworn to before me this 19th day of October, 1881.

[SEAL.] PHILLIPS ABBOTT,
Notary Public, Kings & New York Co's, State of New York.

I consent to the making of the order as prayed for.

SAM'L S. BOYD, *Def't Sol'r.*

At a special term of the United States circuit court in and for the eastern district of Missouri, held at the city of St. Louis on the 14th day of November, 1881.

Present: The Honorable Samuel Treat, judge.

CHARLES E. BLAKE, Trustee, &c., *et al.*,
against
ELIZABETH E. BOISSELIER and JOHN C. KUPFERLE. } Case No. 965.

204 On reading and filing the hereto annexed affidavit of Edward G. Thomppon, showing the death of William S. Carr, one of the parties complainant herein, and that he appointed Clara E. Carr and George D. Scott the executrix and executor, respectively, of his last will and testament, and also showing the death of Charles E. Blake, trustee for the said William S. Carr, and one Sarah Bartholomew, another party complainant, himself a party complainant as such trustee, and that by his death the trust held by him lapsed.

And also showing that thereafter and on the 14th day of March, 1881, the said Clara E. Carr and George D. Scott, as such executrix and executor, and the said Sarah Bartholomew, duly appointed Edward G. Thomson, trustee for them respectively, in the place and stead of Charles F. Blake, trustee, deceased, and that thereafter the said Thompson accepted the said trust and acted under the same, and that then the patent in suit was assigned to him in trust, and on motion of Edward Wetmore, solicitor and counsel for complainants, the defendants solicitor and counsel consenting thereto:

205 Ordered, that this cause be and the same is hereby revived and continued in the name of the said Edward G. Thompson,

trustee for Clara E. Carr, executrix, and George D. Scott, executor of the last will and testament of William S. Carr, and for Sarah Bartholomew and Clara E. Carr and George D. Scott, as such executrix and executor, and Sarah Bartholomew, as plaintiff, and that the said Edward G. Thompson, as such trustee, and said Clara E. Carr and George D. Scott, executrix and executor of the last will and testament of the said William S. Carr, be and they hereby are respectively substituted as complainants in the place and stead of Charles F. Blake and William S. Carr, deceased, and that such revivor and continuance be without prejudice to any of the proceedings already had in this cause.

Approved as to form and substance and may be filed and entered.

WETMORE, JENNER & THOMPSON,
Solicitors for Complainant.
SAM'L S. BOYD, *Solicitor for Defendant.*

206 And afterwards, to wit, on the 16th day of January, 1882, the following further proceedings were had in said cause and appear of record, to wit:

EDWARD G. THOMPSON, Trustee, *et al.*, Complainants,
vs. } 965.
ELIZABETH E. BOISSELIER *et al.*, Defendants.

Now come complainants, by their solicitors, and present to the court their petition praying for an appeal herein, which is allowed, on bond being waived by counsel for the respective parties. And thereupon the said complainants present to the court their citation, citing and admonishing said defendants to be and appear at a Supreme Court of the United States, to be holden at the city of Washington, on the second Monday of October next, which is signed.

207 *Consent Waiving Bond.*

On the 16th day of January, A. D. 1882, the following consent waiving bond on appeal was filed in said cause, to wit:

United States Circuit Court, Eastern District of Missouri. In Equity.

EDWARD G. THOMPSON, Trustee, &c., *et al.*,
vs. } Case No. 965.
ELIZABETH E. BOISSELIER and JOHN C. KUPFERLE.

It is hereby stipulated and agreed, in consideration of a like waiver on the part of the appellants herein in the case of these complainants against McNab and Harlan Manufacturing Company and John Harlan, pending in the United States circuit court for the southern district of New York, to be appealed to the Supreme Court of the United States, that all bond to the appellees herein on appeal of this case to the said Supreme Court of the United States is waived.

SAM'L S. BOYD,
Sol. for Def'ts, Appellees.

St. Louis, Jan'y 14, 1882.